TEXTILE WORLD

JULY · 1945

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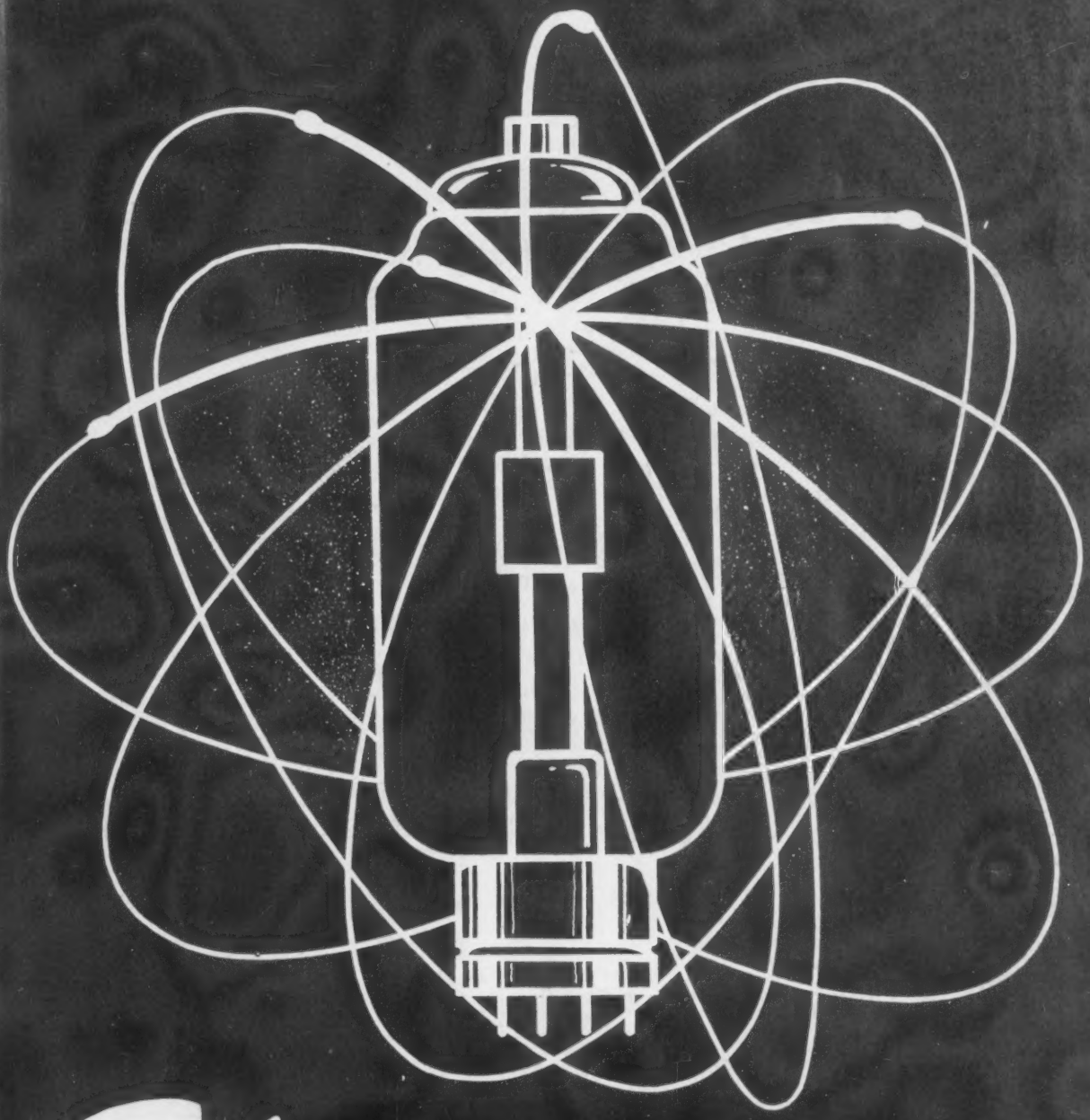


Electronics

AT WORK FOR TEXTILES

HARNESSING THE RAINBOW

Capturing and duplicating the most subtle shades of the rainbow is only the first step in dyestuff application.

The real problem is to harness that color—to make it do a specified job. Breaking colors to harness forms a large part of the work of color specialists of Du Pont's Laboratories. They are constantly striving not only to maintain and improve the quality of production, but also to improve application processes in the dyestuffs industry.

The result of their research is an ever growing stockpile of knowledge, which is at the disposal of textile manufacturers and other users of dyestuffs. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

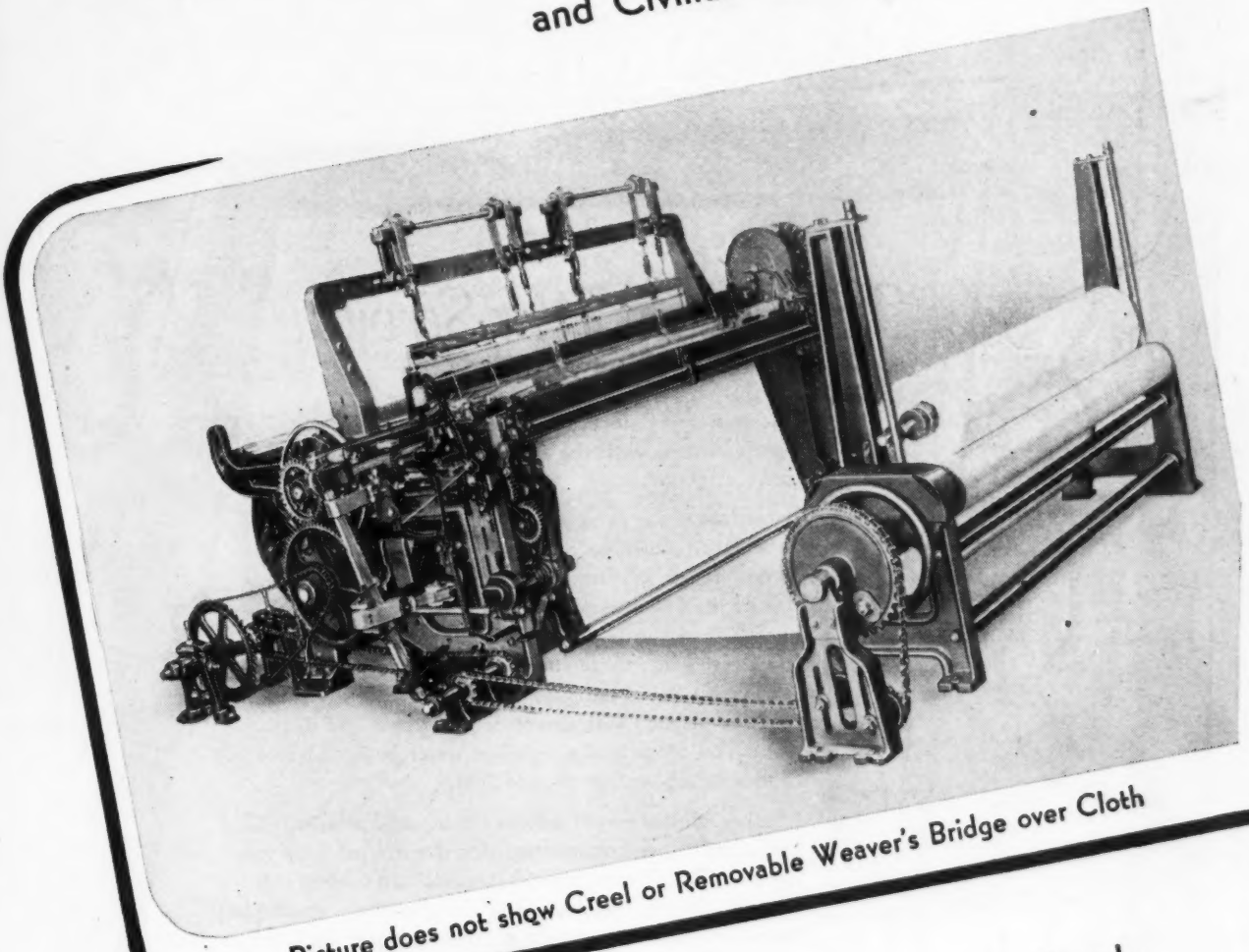
DU PONT DYESTUFFS
REG. U.S. PAT. OFF.

TEXTILE WORLD, Vol. 95, No. 7, July, 1945. Published monthly by McGRAW-HILL PUBLISHING CO., INC. (Bragdon, Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Offices, 330 West 42nd Street, (18) N. Y. Allow at least ten days for change of address. Subscriptions: United States and Possessions, and Latin American Republics, $1.50 a year, $2.00 for two years, $3.00 for three years. Canada, $2.00 a year, $3.00 for two years, $4.00 for three years. Great Britain and British Possessions, 12 shillings for one year, 27 shillings for three years. All other countries $2.00 for one year, $4.50 for three years. Please indicate position and company connection on all subscription orders. Entered as second class matter August 25, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in U. S. A. Twenty-five cents per copy.

R v. 95 2 July-Dec. 1945

More and Better Rayon Tire Cord Fabrics

For Tanks and Jeeps
and Civilian Cars after the War



Picture does not show Creel or Removable Weaver's Bridge over Cloth

When Weavers of Rayon Tire Cord Fabrics found the XP High Speed Loom specially qualified to weave their product, we fitted that model with a special wind-up to take a roll of cloth up to 52" in diameter and changed the loom to weave from a Creel instead of a Beam.

This was part of Draper Corporation's
Contribution to the War Effort.

Tech

DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

R V.95[2] July - Dec. 1945

For Valiant War Service!

Front and center — Chlorine! Take a bow! Here's your medal! Attention — while the world scans and applauds your service record!

For valiant service in the production of munitions that beat the Nazis down to hell... for the indispensable part you played in producing countless millions of gallons of high-octane gas for bombers and tanks that soon will send the Nips to as certain doom! But, in saving lives — ah... there your light shines brighter still! In DDT you bring miracles of comfort and safety to men once plagued with insects winging pain and death ... and you alone make possible water pure and safe without which Armies do not fight.

Another cluster — yet another star. Add a palm! All these and other honors too... for the myriad jobs you do so well! In paper, plastics, textiles... in rubber, chlorinated solvents, hypochlorites, and chemicals which put out fires! You have no counterpart... you stand alone in all your thousand-role splendor — and every man and woman and child is your debtor!

Mathieson, pioneer producer of liquid chlorine and many of its chemical co-products which serve industry in Peace and War, is proud of its own record in producing millions of pounds of chlorine ...anxiously awaits the day when a World at Peace may utilize many new products springing from vast chlorine research.

Mathieson
CHEMICALS

LIQUID CHLORINE ... CHLORINE DIOXIDE ... SODIUM CHLORITE PRODUCTS
SANITATION HTH ... SODIUM METHYLATE ... CAUSTIC SODA ... SODA ASH
BICARBONATE OF SODA ... AMMONIA, ANHYDROUS & AQUA ... DRY ICE
CARBONIC GAS ... SYNTHETIC SALT CAKE ... FUSED ALKALI PRODUCTS

Tech.

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THE *Long-Range View*

New Attack on the MANPOWER Problem

Even though last month the armed services showed consideration to the civilian by reducing their third-quarter textile-procurement programs, the textile shortage is still desperate. Lack of manpower continues to be the problem. Since other governmental efforts to build employment have failed, it is not surprising that Washington now turns to the expedient of raising mill wages. It hopes the number of workers thereby enticed into the industry will more than offset the increase in absenteeism which high wages have been found to cause in other industries—one of the interesting phenomena of the war era.

There are many sensible textile men who have never been happy about the relatively low level of textile wages. Not only have they had a social consciousness about the matter, they have recognized that good wages attract better-educated and more-efficient workers. As such workers progress into executive positions, they show responsibility and initiative and are successful in lowering manufacturing costs and improving the quality and competitive position of the products.

The industry places the blame for its low-wage status on the chiselers—the "infamous ten percent" of the manufacturers who in the past have ruthlessly and consistently set the pace not only for low wages but also for long hours, unnecessary multi-shifts, and cut-throat prices.

If, as seems to be the case at the moment, the Office of Price Administration is willing to single out the textile industry for an increase of up to 4% in prices to cover increases in wages, it is possible that an unusual opportunity is presented in the present sellers' market to override the influence of the chiseler.

Since the OPA has forbidden that price increases be passed on by the cutters-up to the consumer, the raising of wages is accomplished without an inflation of retail prices during the war; but this lid will not stay on when controls in general are released. Therefore, it is reasonable for the industry to ask itself how higher selling prices will affect its competition with foreign textile industries and with other American industries which are trying to cut into its market. This question is applicable to the entire industry; because, although the new wage and price-ceiling program has been applied thus far only to the cotton branch, the basic principle may be extended.

This is a particularly timely question in view of the authorization given by Congress to the President last month to cut tariffs 50%. Alarming as this development is to most divisions of the industry, it is most particularly disturbing to the wool division, which knows only too well the cordial reception which the American consumer is inclined to give the importer's label. Indeed, a recent report of the Tariff Commission indicates that if all tariffs were cut 50% across the board, it would be the wool manufacturer who would make the chief contribution to America's tariff-reducing gesture for international good will.

Domestic industries which are in the best position to export are those in which labor costs are a relatively small percentage of total costs, while those industries which are in the greatest danger from imports have labor costs as a particularly important element. Therefore, it is conceivable that an ill-considered reciprocal trade agreement which exchanged, for example, automobiles for textiles might sacrifice two American workers for a gain of one. Since the law is passed, it is obvious that we have got to lay such facts before the State Department and rely on its good sense to exercise its new powers wisely.

If it is true that the industry must face higher wages and lower tariffs, there is only one possible answer to the problem presented. This is rapid technological progress to reduce the number of workers per unit of product. Industrial history has shown that such a development reduces costs and prices, expands markets, increases production, and results ultimately in a larger total number of workers employed.

Fortunately, textile manufacture is rapidly reaching the point where it can become a scientific, precise, low-labor-cost industry. In synthetic fibers mill men have a uniform and controllable raw material. Textile manufacturers are in a healthier financial position and therefore more receptive to investments in high-priced cost-reducing machinery. They are making a larger investment than ever in research facilities, both cooperative and private. Production executives now hold advanced ideas on controlling quality and training labor. The personnel of the industry is already better educated and more scientifically minded.

Higher wages in themselves foster technological progress, since receptivity to labor-saving machinery is proportional to the cost of the labor replaced.

Edwin L. Fowle

STANDARD ★ Durene

means extra comfort, extra strength, extra quality and extra service in your hosiery and knitted wear

STANDARD Durene assures these quality advantages for your merchandise because it is multi-ply mercerized combed cotton yarn produced under the controlled standards set by the Durene Association and our own 68 years in spinning.

Plan now to give your merchandise these quality advantages of STANDARD Durene as soon as it is released for civilian use. The name Durene, you know, is licensed for use only on merchandise of good quality and workmanship which can meet performance tests of a qualified laboratory.

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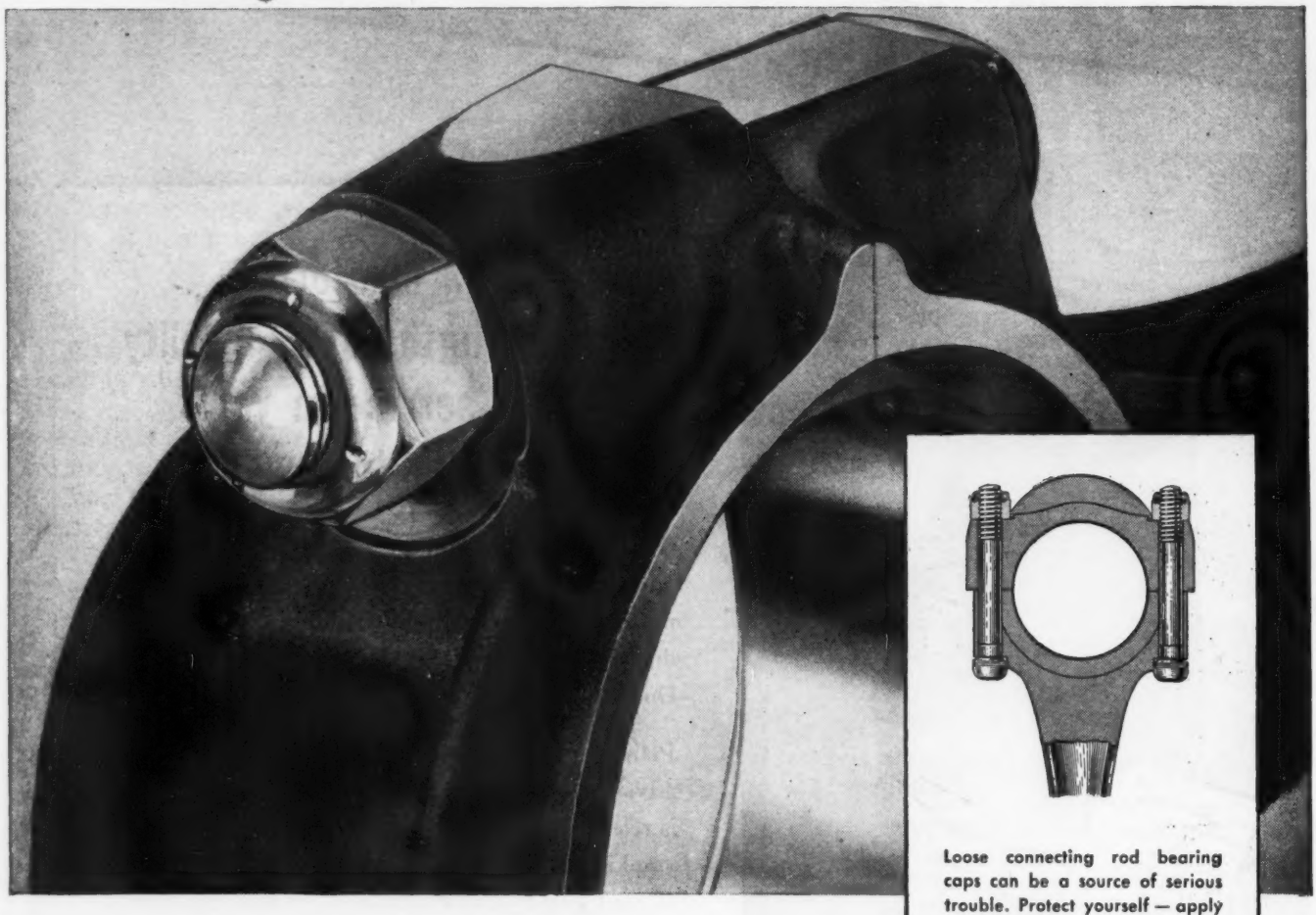
CORRECT *for connecting rods*



Loose connecting rod bearing caps can be a source of serious trouble. Protect yourself — apply Elastic Stop Nuts; they hold fast. This, or any other nut, won't stop bearing wear or bolt stretch, but it can remedy connecting rod troubles resulting from loose nuts.

Make certain that the bolt extends completely through the collar.

THIS NUT ALWAYS HOLDS FAST

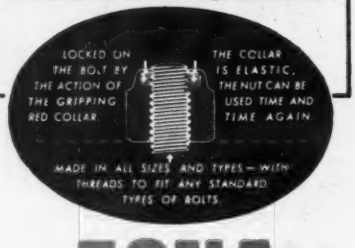
Under tough operating conditions, on connecting rod bearings for instance, the Elastic Self-Locking Stop Nut does its job, by gripping fast. An ordinary castellated nut or jam nut might break loose, lose its grip and fail, and so would the parts it is assigned to hold together.

But not the Elastic Stop Nut. It uses its head—for, built into the head of this nut is a locking device, an oil-resistant elastic compression collar. This forms itself to the individual bolt thread, grips it tight. The nut won't loosen or back off under the severest vibration, shock or impact.

You need no cotter pins, no lock-washers or other auxiliaries when you use Elastic Stop Nuts. Thus there is no possibility of broken bits of these extras in the crankcase. Nor is there any distortion of or damage to the bolt or the cap. Made to fit any standard bolt or stud, Elastic Stop Nuts can be used over and over again with fully adequate gripping power. You can turn this nut up to the exact torque you need and be sure it will stay there.

Here is definite insurance against loose bearing caps which means greater safety and reliability in use; greater economy in assembly and maintenance.

LOCKS FAST TO MAKE THINGS LAST


LOCKED ON THE BOLT BY THE ACTION OF THE GRIPPING RED COLLAR.
THE COLLAR IS ELASTIC. THE NUT CAN BE USED TIME AND TIME AGAIN.
MADE IN ALL SIZES AND TYPES—WITH THREADS TO FIT ANY STANDARD TYPES OF BOLTS.

ESNA

TRADE MARK

ELASTIC STOP NUT CORPORATION OF AMERICA

Plants at: Union, New Jersey and Lincoln, Nebraska

Sales Office: 1060 Broad St., Newark 2, New Jersey

TALL TALES ...but TRUE!

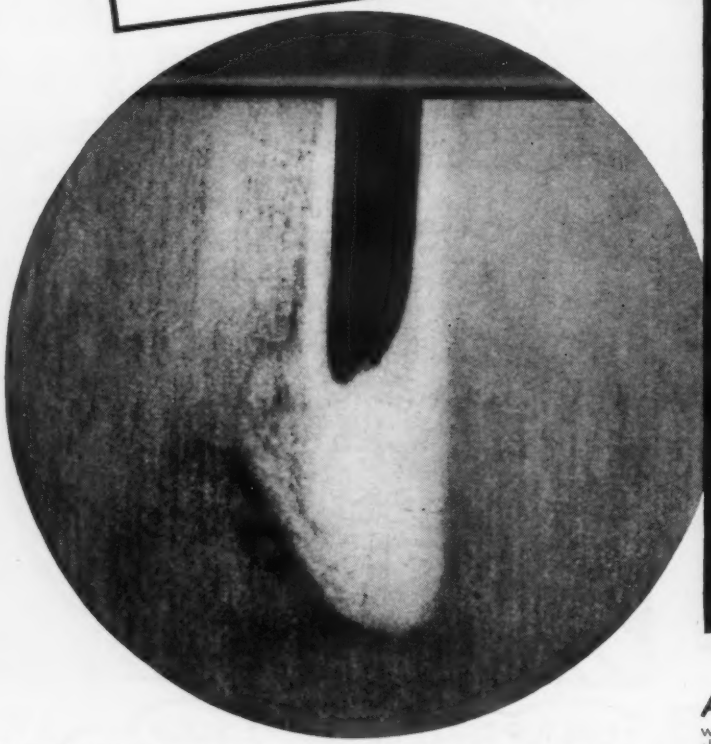
Their exploits may sound like a "Liars Club" meeting . . . but the great new Texrope V-Belts really do solve each and every one of these various drive problems.

I CAN BEAT STATIC ELECTRICITY. I'M STATIC-RESISTING SUPER-7. MY BUILT-IN CONDUCTING ELEMENT CARRIES CHARGES TO MACHINES WHERE THEY'RE GROUNDED. USE ME WHERE EXPLOSION IS A DANGER.

IT PAYS TO MAKE ALLIS-CHALMERS YOUR V-BELT DRIVE HEADQUARTERS

Texrope Super-7 V-Belts result from the cooperative research of two great companies—Allis-Chalmers and B. F. Goodrich—and are sold exclusively by A-C.

CARDS EQUIPPED WITH THE SACO-LOWELL *Continuous* STRIPPER PRODUCE QUALITY SLIVERS ALWAYS



This card cylinder has been in continuous operation for 10 weeks without any other stripping than that effected by the Continuous Stripper. The web has been lifted from the cylinder with a knife, revealing a clean thin sheet of fibres. **The wire was found to be free from impacted waste and in unusually good condition.**

A COMPARISON OF CARD SLIVERS

A — When the card wire is bright and free to function properly, the extraction of waste is effective. The card web is free from holes and lumps and produces an even sliver with good edges.

B — When the card clothing is full of impacted waste it is quite difficult to do good carding and obtain the best results from the stock.

The Saco-Lowell Continuous Card Stripper is a source of quality control in the card room. By keeping the cylinder clothing clean and free from impacted waste, and by preserving the free acting condition of the wire, the Continuous Stripper naturally has its effect on improving quality.

And here is why . . .

1. The web is cleaner, since the cylinder wire cannot become loaded with waste fibre.
2. Variation in the sliver weight, which reaches a maximum right after stripping, is eliminated. When any conventional method is used, the variation may reach 50 to 75 per cent.
3. The necessity of making 25 to 30 piecings per card in an 80-hour week, makes thick and thin places which may create "ends down or loom stops".
4. Nep count is reduced. The Continuous Stripper eliminates the variation in nep count and stabilizes the count at slightly above the average of that immediately "after stripping".

We have many other interesting facts about the Saco-Lowell Continuous Stripper which are fully detailed in our special catalog on this unit. Won't you let us send you a copy?

A LETTER THAT SPEAKS FOR ITSELF . . .

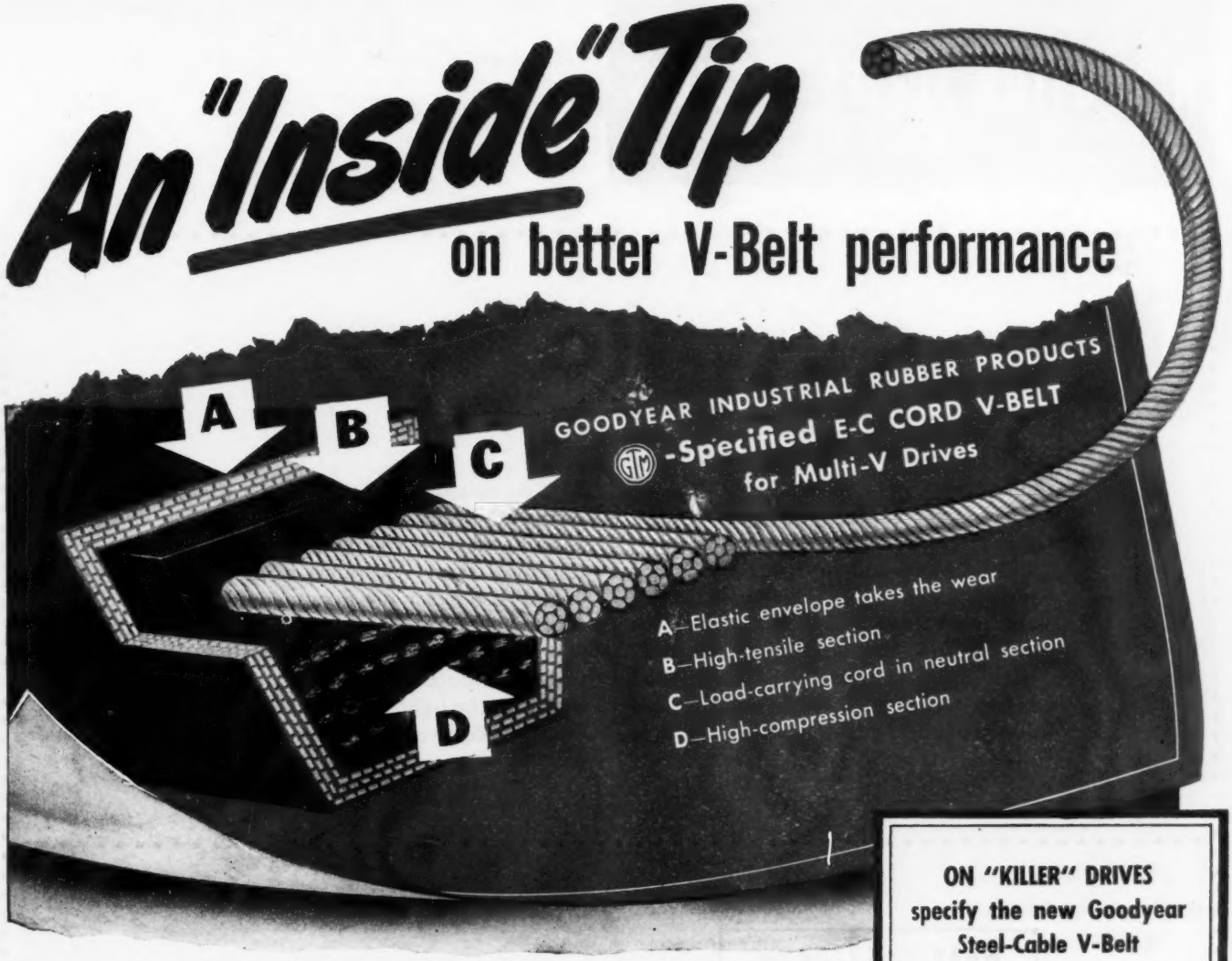
—— we have 165 Saco-Lowell Continuous Card Strippers and have used them for a number of years with splendid results. In fact, we hardly see how we could get along without them.

We would be only too glad to have your assistant superintendent over to see our system in operation. We will certainly give you the benefit of our long experience with this Saco-Lowell equipment.

*Name on request.

SACO-LOWELL SHOPS • BOSTON, MASSACHUSETTS • *Charlotte* • *Greenville* • *Atlanta*

An "Inside" Tip on better V-Belt performance



HERE you see the "inside" reason why Goodyear's time-proved E-C Cord Multi-V Belt is the standout cotton cord belt for high-efficiency performance and long life. Note the large diameter of the tough, endless, heavy-duty cord that sinews this great belt. Comparatively speaking, it is truly ropecord—high in tensile strength and stretch resistance.

This Goodyear-pioneered construction makes it possible to concentrate the load-carrying cord in the neutral section—where it is not subject to either extreme tension or compression in bending around the pulleys. Thus the entire strength of the cord is employed in pulling the load—not sapped by internal friction, buckling or distortion. Every cord does its full share of work.

Add to this the precision-matching that insures uniform length in every set and it is easy to see why Goodyear E-C Cord belts are the best-balanced belts you can buy for multi-V drives. Every cord in every belt pulls its full share of the load, insuring longer life and maximum power output. Order from your V-belt jobber, or write Goodyear, Akron 16, Ohio, or Los Angeles 54, California.

ON "KILLER" DRIVES specify the new Goodyear Steel-Cable V-Belt

This revolutionary Goodyear development handles drives never successfully powered by V-belts before. Operates at belt speeds ranging from 38 to 9,400 F.P.M. — with negligible stretch, creep or slip. Strength to spare for heaviest shock loads. The ultimate V-belt — nearly THREE MILLION now in use.

E-C Cord—T.M. The Goodyear Tire & Rubber Company

FOR HOSE, BELTING, MOLDED GOODS, PACKING built to the world's highest-quality standard, phone your nearest GOODYEAR INDUSTRIAL RUBBER PRODUCTS DISTRIBUTOR.

THE GREATEST NAME IN RUBBER

GOODYEAR

HOW SYTON SERVES TEXTILES

...IF YOU FINISH

silks, rayons, nylons, cottons . . . fabrics which tend to snag, develop "runs," slip or creep, especially at seams, you will be interested in Syton which has proved it can reduce this tendency 50% and more (standard ASTM tests with 1% to 5% Syton solution). In mill trials a 5% solution of Syton applied before the regular finish cut the tendency of sheer rayon hose to snag over 80% as measured by the standard test of the National Association of Hosiery Manufacturers. (Same trials showed improved wear resistance of 25% to 40%.) Also Syton has demonstrated its proficiency as a delustering agent; the submicroscopic particles of the modified silica deposited within the fibers break up the light beams falling on the fabric, take away the shine.

WHAT IS SYTON?*

Syton is Monsanto's new colloidal dispersion of modified polymerized silica . . . actually, highly purified submicroscopic particles, diameter less than 1/400,000th of an inch, suspended in water. As fabrics or fibers are dipped in a solution of Syton these tiny fibrils of modified silica penetrate the fibers, forming a hard, translucent coat, which greatly increases the coefficient of friction between fibers.

Syton can be used on a wide range of fibers or fabrics . . . to deluster, to improve strength, to prevent slippage and runs. It does not require heat for curing or setting. It produces a crisp, dry finish in low concentrations. No special equipment is required for application. Syton is compatible with other finishing agents, dyestuffs, or resins.

*Reg. U. S. Pat. Off.

Syton is just one more of the many new, exciting chemicals for textile improvement coming from Monsanto's busy textile research laboratories today. If you are interested in producing or finishing the textiles of the future, you'll do well to watch Monsanto. MONSANTO CHEMICAL COMPANY, Textile Technical Service, Everett Station, Boston 49, Massachusetts.

MONSANTO
CHEMICALS — PLASTICS

The Textile
SERVING INDUSTRY... WHICH SERVES MANKIND

Nothing Rolls Like a Ball . . .

According to the annoyed gentleman above, that's *bad.* According to his opponent, that's *good.*

And, according to Industry, faced with ever-new problems of higher speeds, heavier loads and greater precision, that's the answer to many prayers.

For the *ball* bearing is fundamentally different. It is outstanding for free-rolling, precise location of parts, for simplified design, with low maintenance costs.

In millions of applications, New Departure Ball Bearings are proving their unique fitness for the new scheme of things mechanical.

We know of no other bearing that has as many advantages as the *ball* bearing. Particularly the *ball* bearing backed by New Departure's experience and technical skill.

•

Our 112 page illustrated book "Why Anti-Friction Bearings" is mighty interesting. May we send you a copy?

NEW DEPARTURE
BALL BEARINGS

3373

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT • CHICAGO • LOS ANGELES and other principal cities

Typical Mill Installation of Whitin 40" Full Roller Cards

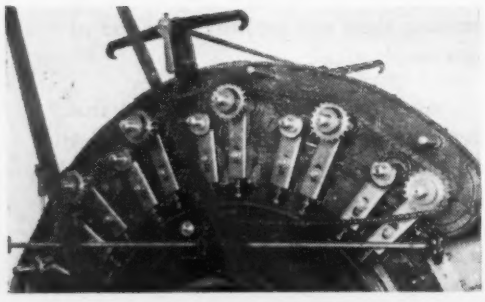
Special products require special handling and properly designed equipment.

If you are now running or planning to run spun rayon, rayon and wool blends, merinos and similar long staple products, it is essential that you have equipment made expressly for that purpose.

Carding is a most important step in the preparation of these long staple fibers — and we believe the Whitin 40" Full Roller Card provides the best means now available of handling this important operation.

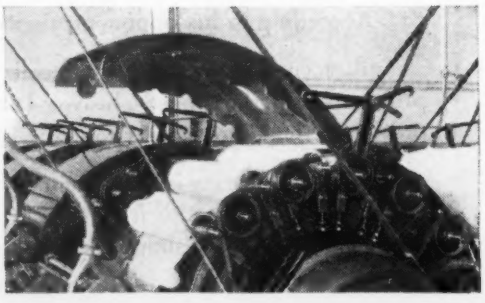
Consider its many desirable features and improvements all of which were designed to strengthen your position in a highly competitive field of operation.

1. *Full* roller operation — 6 sets of worker and stripper rolls.
2. 25 lbs. per hour average production on 3 denier and coarser.
3. Extremely low waste percentage (¾ of 1%).
4. Thorough blending and less staple breakage.
5. Improved double lap back feed.



Improved Chain Drive for Worker Rolls

Improved Dust Shields and Fly-proof Covers



WHITIN MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS, U. S. A.
CHARLOTTE, N. C. **ATLANTA, GA.**

Stop Wear, Rust and Corrosion with this

BODY-GUARD FOR A BALL BEARING!

THROUGHOUT your busy plant, there are hundreds, perhaps thousands, of grease-lubricated ball bearings like the one shown at the right.

As you know, their efficient operation depends largely upon a grease that continuously covers the highly polished surfaces and provides strong films for protection against wear, rust and corrosion. At the same time, this lubricant must seal out impurities, minimize leakage, make frequent re-packings unnecessary.

Today, in thousands of U. S. plants, Gargoyle Greases BRB, are providing this maximum protection. They are outstanding for their stable structure and their resistance to oxidation and separation over long periods in service.

Get Gargoyle Greases BRB, and be sure your ball bearings have the best body-guards you can buy.

SOCONY-VACUUM OIL CO., INC.
Standard Oil of N.Y. Div. · White Star Div. · Lubrite Div. · Chicago Div. · White Eagle Div. · Wadhams Div. · Magnolia Petroleum Co. · General Petroleum Corp. of Calif.

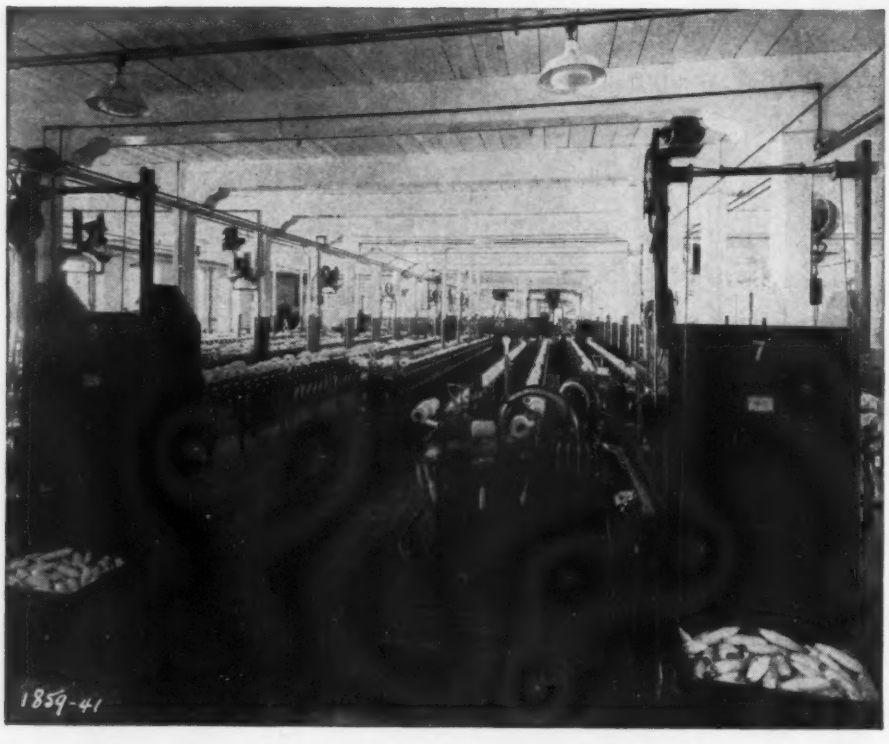
CALL IN SOCONY-VACUUM FOR "CORRECT LUBRICATION"

GARGOYLE Lubricants

Socony-Vacuum's 5 STEPS to Lower Production Costs for You!

1. Lubrication Study of Your Entire Plant
2. Lubrication Schedules and Controls
3. Lubricant Storage and Handling System
4. Skilled Engineering Counsel
5. Progress Reports of Benefits Secured

ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz.	Bobbin	112 lb. hr.
3-oz.	"	169 " "
4-oz.	"	224 " "
5-oz.	"	280 " "
6-oz.	"	338 " "
7-oz.	"	380 " "
8-oz.	"	448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

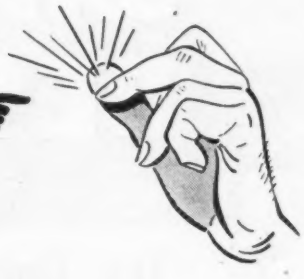
Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

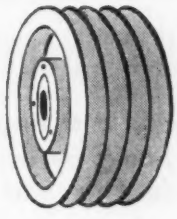
ABBOTT MACHINE COMPANY

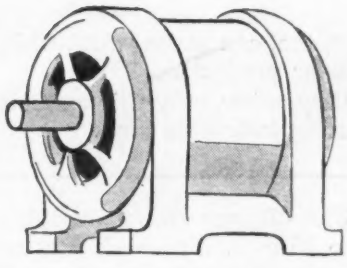
WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

Just like this ☛ this ☛ goes on or off this ☛

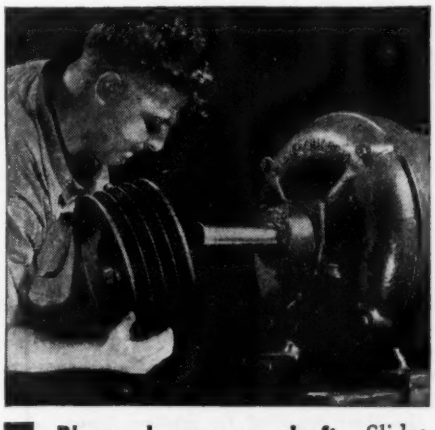




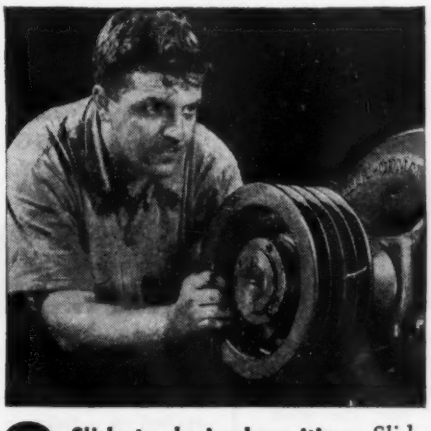


Yes, it's a snap to change sheaves now, when you provide Allis-Chalmers' new "Magic-Grip" — *fastest mounting and demounting sheave on the market.* Saves time and money.

SEE WHY THE NEW "MAGIC-GRIP" MOUNTS FAST, PERFORMS SMOOTHLY



1 Place sheave on shaft. Slides on smoothly because clearance is provided by expanded bushing. There's *no* hammering — *no* forcing! Complete sheave and bushing unit comes intact—ready for quick, easy mounting.



2 Slide to desired position. Sliding easily, sheave can be placed *exactly* according to straight-edge . . . giving you true alignment with resulting smooth performance. A minimum of time is required.

3 Tighten three capscrews — and it's ready to go! Entire sheave is locked securely to shaft and *grips like magic!* No set screws to damage shaft. Send for Bulletin B6310. Allis-Chalmers, Milwaukee 1, Wis.

A 1857

Allis-Chalmers Texrope

"MAGIC-GRIP" SHEAVES

SAVE 30% ON YOUR BELT LACING COSTS

The Timken Roller Bearing Co. of Canton, Ohio, has effected a saving of about 30% in consumption of belt hooks by using Clipper Belt Hooks, Clipper Lubrihide Pins and Clipper Speed Lacers.

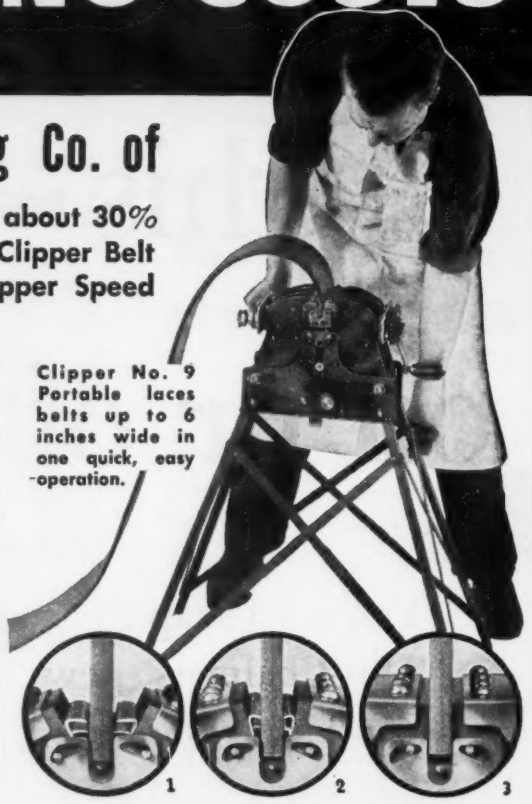
You, too, can make worth-while savings by using ALL THREE Clipper products.

Remember, only Clipper Belt Hooks are packed with the long wearing **Lubrihide Pins.**

The **Clipper No. 9 Portable Lacer** develops pressures up to 16 tons. With such pressure, hook legs can be embedded flush with the surface of any kind of belt and points clinched.

The scientific action of the jaws forms a perfect line of well rounded loops permitting the use of maximum diameter **Lubrihide Pin,** also providing equal distribution of pulling strain on every hook. A belt joint so made will outlast by two to three times one made with an old-style portable lacer.

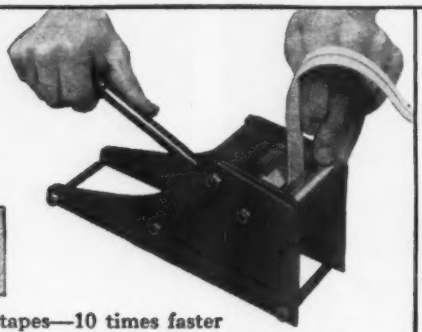
We suggest that you check YOUR belt lacing situation. Send for folder describing the powerful Clipper No. 9 Portable Lacer and other Clipper products. Phone your Mill Supply Jobber for a demonstration!

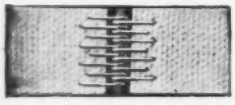


Clipper No. 9 Portable laces belts up to 6 inches wide in one quick, easy operation.

Scientific action of Jaws forms a perfect loop for connecting pins.

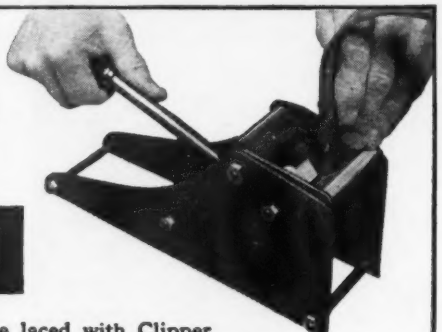
CLIPPER SPINDLE TAPE LACING EQUIPMENT

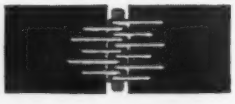




You can lace spindle tapes—10 times faster than stitching — with Clipper No. 25 Spindle Tape Hooks. The spinning frame is shut down only long enough to place the new tape on the pulleys and join the ends with the connecting pin — a short, easy operation. Tapes run true—last longer—run smoother—require less tension. VIBRATION is ELIMINATED.

CLIPPER CONDENSER TAPE LACING EQUIPMENT





Condenser tapes are laced with Clipper No. 25 Condenser Tape Hooks. The joint is as flexible as the tape itself. Clipper Laced Condenser Tapes can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving, and cut to length. WRITE FOR INFORMATION.

CLIPPER BELT LACER COMPANY GRAND RAPIDS, MICHIGAN, U. S. A.

SANDOZ PRESENTS

the color achievement of the month

Portrait in Red **BY JANTZEN**

Applauded alike by wearer and beholder... this 100% virgin wool jersey swim suit by Jantzen dares to be *red* as well as *revealing.*

Camellia red with white-ruffled trim makes this truly a "Portrait" model—as evidenced in the full color painting executed by Ben Stahl, a foremost American artist.

Subtlety in strong color is the mark of the craftsman... and a characteristic of American-styled beachwear and other costuming. Sharing in the responsibility for colors that mark the popular mood is Sandoz... supplier to so many of the great names in fabric and fashion.

Thinking ahead with textiles is Sandoz' job . . . thinking ahead in styling . . . thinking ahead in technique. Sandoz has developed several excellent bathing suit colors. Brilliant Alizarine Sky Blue BS (Pat.), Acid Light Scarlet GL (Pat.), Brilliant Alizarine Light Violet FFR (Pat.), Alizarine Milling Green B, and Alizarine Light Brown BL (Pat.), all have excellent fastness to light combined with the important feature of fastness to salt water and perspiration.

Acid Light Scarlet GL (Pat.) and Brilliant Alizarine Light Violet FFR (Pat.) are outstanding also because of their brilliance in shade.

Sandoz can fill *your* current needs for dyes... chrome, acid and direct... and auxiliary chemicals for all natural and synthetic fibres. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, with stocks in those cities. Other branches are in Chicago, Paterson, and Providence.

Next month: another color achievement, featuring the work of another Sandoz customer.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

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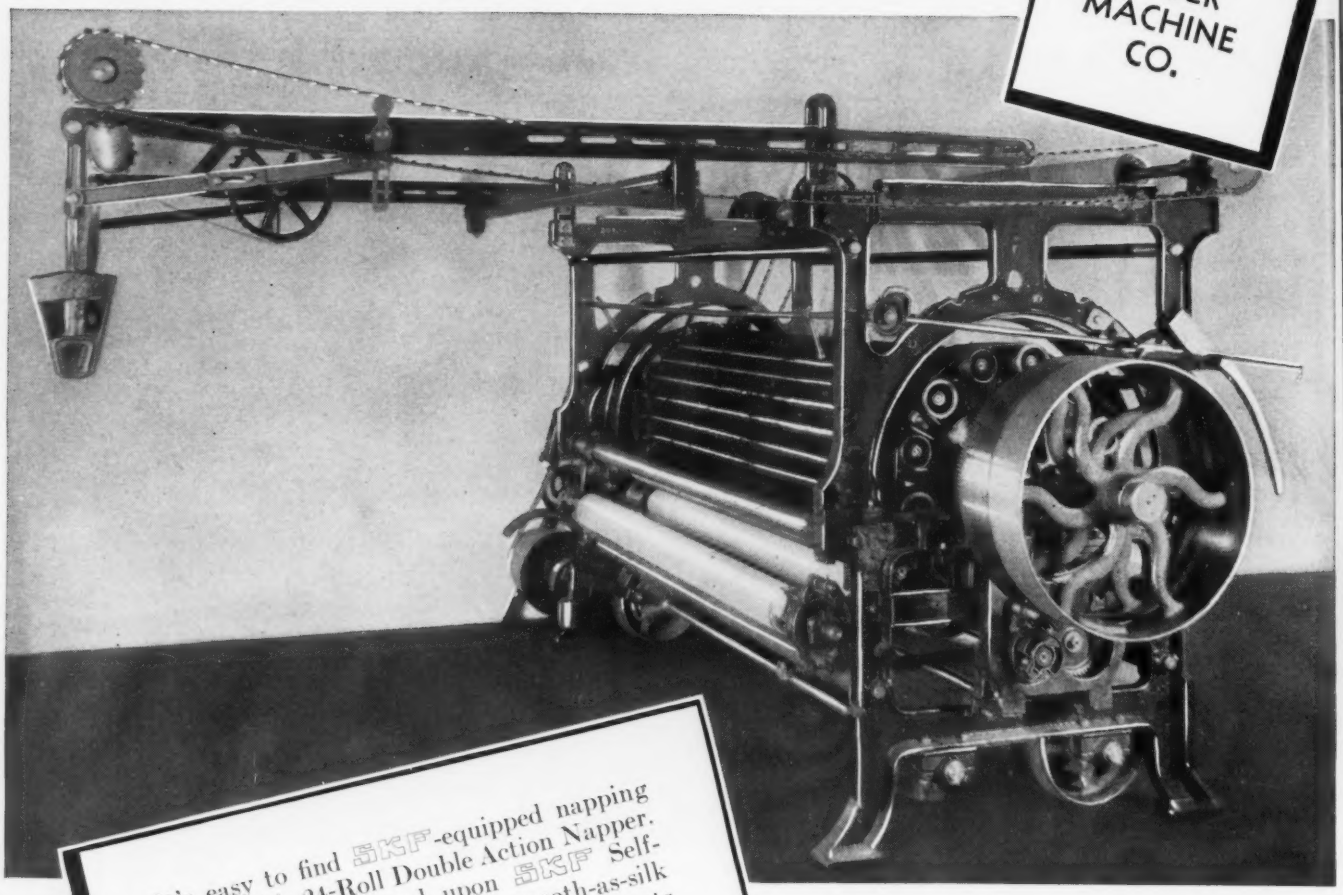
SANDOZ *thinks ahead with textiles*

SANDOZ

UNIFORMS BEGIN WITH SKF-EQUIPPED NAPPERS

Built by DAVIS & FURBER MACHINE CO.



It's easy to find SKF-equipped napping rolls on this 24-Roll Double Action Napper. ALL of them depend upon SKF Self-Aligning Ball Bearings for smooth-as-silk running . . . for getting off to quick starts . . . for freedom from bearing trouble. Because they have built-in alignment, SKF's compensate for alignment deviations without binding or losing high capacity. And those are the things that count in the manufacture of uniform cloths, overcoatings, blankets, napped rayons, etc. In the Textile Industry, as in all other industries, SKF puts the right bearing in the right place.

5838

SKF INDUSTRIES, INC., PHILA. 34, PA.

SKF

BALL AND ROLLER BEARINGS

OWI Photo by Palmer, in an Allegheny Ludlum plant

ALLOY AMMUNITION DUMP

FOR THE WAR MATÈRIEL BUILDERS

COILS of strip and stacks of sheet bars—Allegheny Ludlum Stainless and Electrical steels.

As illustrated, these alloy steels are in the hot-rolled state. They're still a raw material. A great deal of careful and often highly involved processing—hot and cold-working, annealing, pickling and surface-finishing—must be done before they'll be ready to take their places on the war lines. But one day soon—correct to the exact physical, chemical or electrical properties required of them—these alloy steels will take their places in the planes, tanks, guns and ships of the fighting fronts or in needed equipment for the home front. And always, it is a most essential and important place.

High-alloy steels are not ordinary materials. They are not produced, nor can they be used, in ordinary fashion. Above all, they must not be wasted through faulty selection, undue scrap losses, too high a percentage of rejects and spoilage, or any other reason that would prevent a fabricator from getting the maximum utility from every ton of these special alloy steels he converts.

That's both your and our responsibility, and we want to help in any way possible. Complete technical and fabricating data is available on all Allegheny Ludlum grades, as well as the personal assistance of our Technical Staff.

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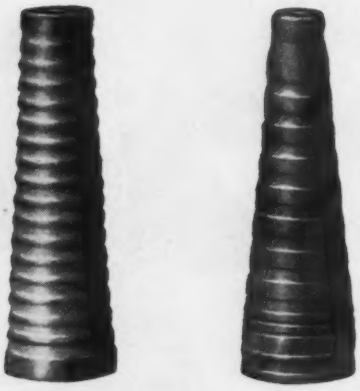
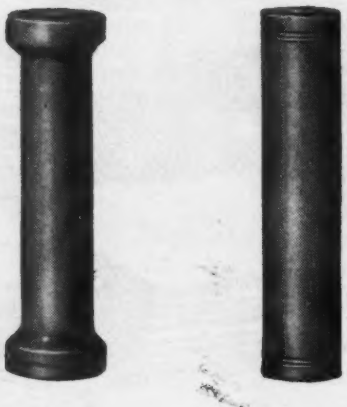
Allegheny Ludlum
STEEL CORPORATION
BRACKENRIDGE, PENNSYLVANIA

Branch Offices in Principal Cities . . . Allegheny Stainless also handled by all Joseph T. Ryerson & Son, Inc. Warehouses

A-9770 .. W & D

CUSTOM-BUILT CONES . . . *by the Million!*





MILLIONS of Cones and Rolls flow from the efficient production lines of US plants to textile plants throughout the world. Yet, if each one were individually custom-built, it could not be keyed more closely to the specific needs of the purchasers.

REASON for this pleasing paradox is the US approach to winding problems. A US representative applies an 87-year experience to your requirements, then recommends Cones and Rolls best adapted to reducing your costs, improving your products.

PUT US CONES AND ROLLS IN

YOUR POST-WAR WINDING PLANS

THAT'S WHY US Cones and Rolls are right in step with every advance in winding practice. That's why so many new developments, like the Cork Cone, are available first from US. And that's why you can look to US for tested improvements post-war.

YOUR NEEDS will be quickly interpreted by a mill-wise US representative. And US, with five manufacturing plants North and South, can handle any sized order. For *custom-built* quality, specify US Cones, Rolls, Bobbin Shuttles, Spools, Tubes, and related products.

US BOBBIN & SHUTTLE CO.

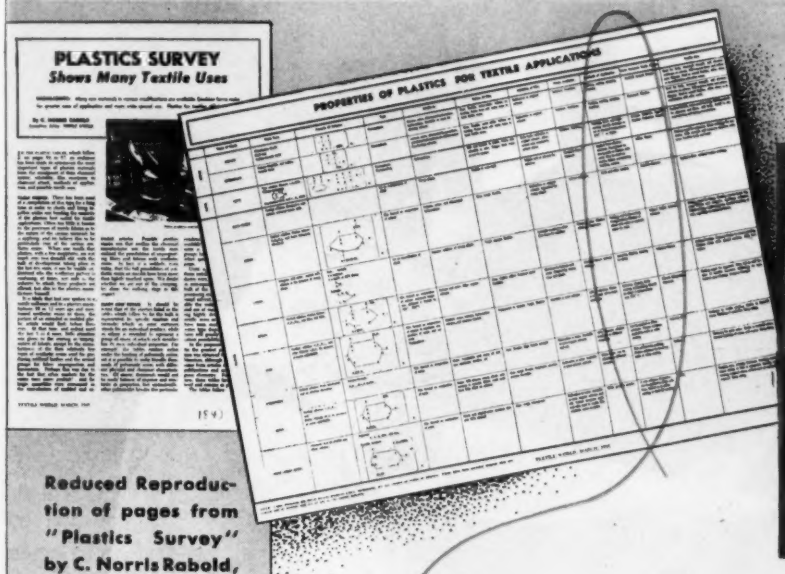
PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO AGENT:
Albert R. Breen,
80 E. Jackson Blvd.

LAWRENCE, MASS.

CANADIAN AGENT:
Montreal, Que. — Hamilton, Ont.
W. J. Westaway

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

Let *Plastics* transform your cloth into a glorious new material!



Reduced Reproduction of pages from "Plastics Survey" by C. Norris Rabold, published in Textile World.

Photo courtesy of Cleaveland Laboratories & Mfg. Co.

METHODS OF APPLICATION ARE PROVIDED WITH WALDRON MACHINES

Waldron Machines For Your Process Include

Reverse - Roll Coaters
Knife Coaters
Saturaters
Laminators
Web Guides
Unrolls
Winders
Rewinders

In his valuable survey, part of which is illustrated above, Mr. Rabold lists 27 plastics and 27 methods of applying them to textiles for as many textile uses. It is highly significant that for 25 out of the 27 there is now a time-tested WALDRON machine for the method of application suggested.

Plastic coated or saturated cloth holds tremendous possibilities for new markets for new materials—materials of greater beauty, durability and versatility. The majority of these will stem from the modern WALDRON machines designed to properly handle the required processing operations.

Investigate the possibilities for your product. Whatever your requirements, WALDRON engineers possess the specialized knowledge to properly advise you. Many of the most popular products already developed through a combination of plastics and textiles are the result of special processing on WALDRON machines.

Copy of "Plastics Survey" by C. Norris Rabold and our Catalog No. 112 will be gladly furnished on request.

JOHN WALDRON CORP.

Main Office & Works – NEW BRUNSWICK, NEW JERSEY

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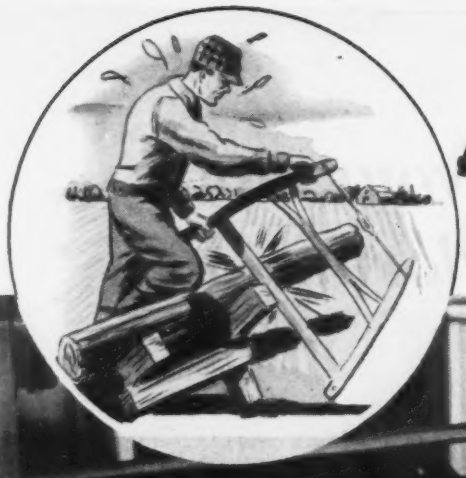
BUILDERS OF QUALITY MACHINES SINCE 1827



A CARD WITHOUT CLOTHING IS LIKE A SAW WITHOUT TEETH

Elementary of course, for you wouldn't think of running a card without clothing. However, running a card with POOR clothing is almost as bad.

To KEEP your cards at maximum efficiency, replace defective clothing promptly. Ashworth Surveys will tell you when clothing has outlived its usefulness. They're free; they're made by practical card men and they include inspection of bearings and of chains, as well as of clothing.

Ask us about them.

ASHWORTH BROS., INC.

AMERICAN CARD CLOTHING CO. (Woolen Div.)

Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta†‡ Greenville†‡ Charlotte†‡ Dallas†‡ (Textile Sply. Co.)

**Factory †Repair Shop ‡Distributing Point*

PRODUCTS AND SERVICES

CARD CLOTHING FOR COTTON, WOOL, WORSTED, SILK, RAYON AND ASBESTOS CARDS AND FOR ALL TYPES OF NAPPING MACHINERY • BRUSHER CLOTHING AND CARD CLOTHING FOR SPECIAL PURPOSES • LICKERIN WIRE AND GARNET WIRE • SOLE DISTRIBUTORS FOR PLATT'S METALLIC WIRE • LICKERINS AND TOP FLATS RECLOTHED • • • • • • • •

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

WAX MAKES THE DIFFERENCE

in this patented finish!

JOHNSON'S WAX-FORTIFIED INTERIOR FINISH gives you these 4 extra advantages!

1 *Greater mar resistance.* Remarkable ability to withstand scuffs and scratches.

2 *Stays clean longer.* Dust and dirt don't readily stick to a Wax-Fortified surface.

3 *Easier to clean,* when finally necessary. Because of the wax, dirt is easily wiped or brushed off.

4 *Satin-smooth, lustrous finish . . . no harsh glare.* Better light diffusion, easier on the eyes.

Because some materials in this finish are going into war production, we cannot supply you now, but will gladly give you further facts . . . help you prepare for future needs.

The Johnson laboratories have perfected this new patented Wax-Fortified maintenance finish which gives a rich, no-glare beauty, is exceptionally dirt- and wear-resistant, and amazingly easy to clean.

Wax protection for the life of the paint job

Johnson's Wax-Fortified Interior Finish is thoroughly impregnated with wax which is evenly distributed *all through* it, not just on the surface. As a result, the wax protection lasts as long as any finish remains—steps up maintenance efficiency, cuts maintenance costs. No special preparation is necessary for application. Brushability is improved because of the lubricating action of the wax. Broad coverage and great hiding power make for true painting economy.

Repainting is no problem

Because the wax is impregnated in the finish, it does not retard adhesion. Repainting may be done with Johnson's Wax-Fortified Interior Finish, or with ordinary paint.

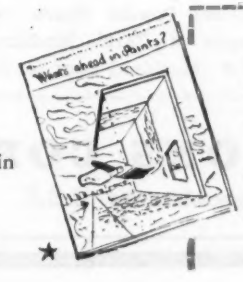
Its versatility and special advantages mean that Johnson's Wax-Fortified Interior Finish will fit the needs of bakeries, food plants, dairies, restaurants, factories, office buildings, department stores, schools and hospitals. For the complete story, fill out and mail the coupon today!

Made by the makers of

JOHNSON'S WAX

S. C. JOHNSON & SON, Inc., Racine, Wisconsin

★ *Keep on buying EXTRA War Bond* ★



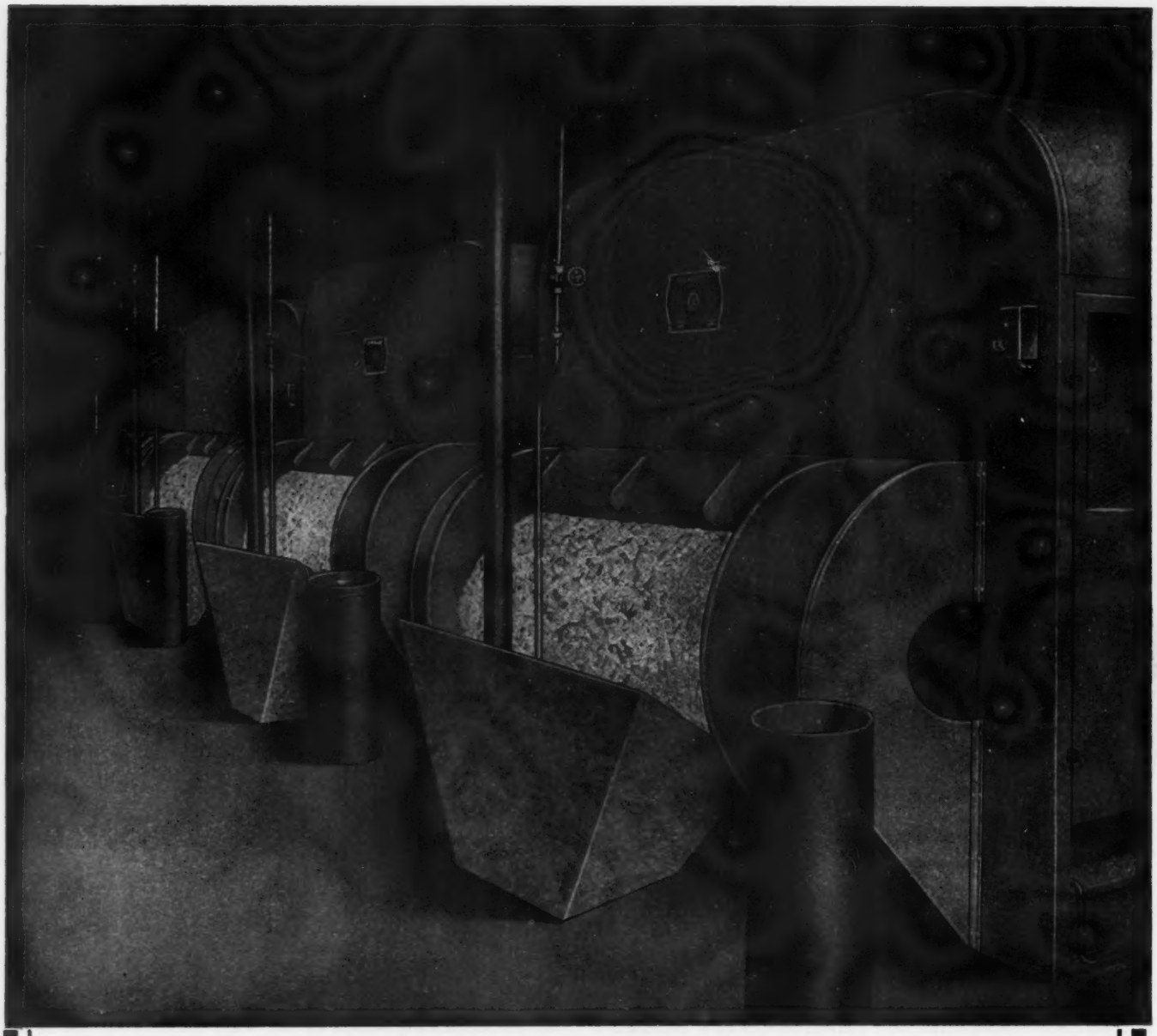
S. C. Johnson & Son, Inc., Dept. T-75, Maintenance Products Dept.
Racine, Wisconsin

Gentlemen: Sure! "Wax Fortified" looks good to me. I'd like to see the "What's Ahead in Paints" brochure.

*Name*_____

*Address*_____

*Business or institution*_____



A Recent Installation of Four SARGENT STOCK DRYERS
in a Progressive New England Worsted Mill

A Production Problem Solved -

• • • THIS IS THE IMPORTANT FACT!

Advantages of this modern installation

— Stock dried at lower temperatures — The use of low pressure steam
— Lower power consumption — Less floor space required
— Costly repairs and breakdowns eliminated — A better product

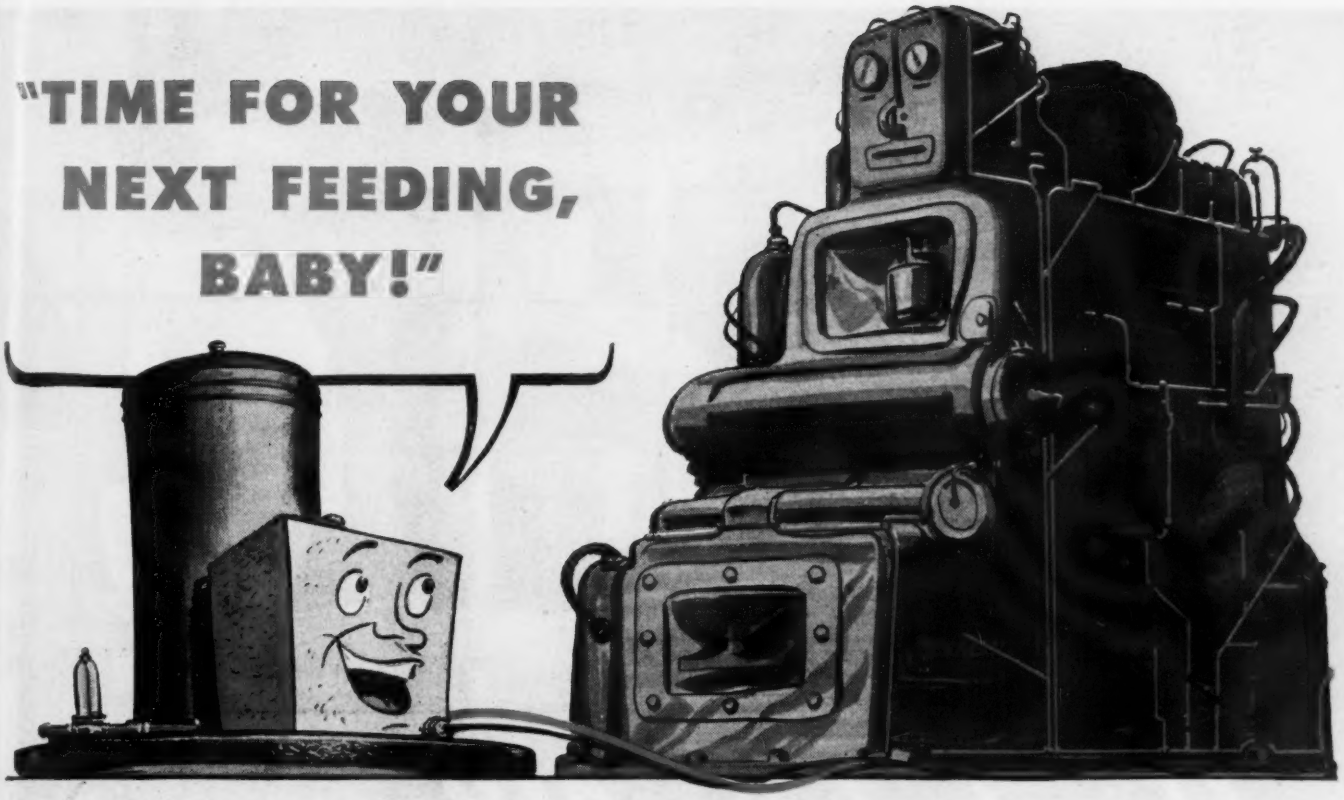
Why not let SARGENT solve your Drying troubles ?

Important Defense Items by SARGENT	Machines for Smokeless Powder Plants • Machines for Synthetic Rubber Plants • Textile Machinery for the manufacture of uniforms • Machined parts for large caliber guns

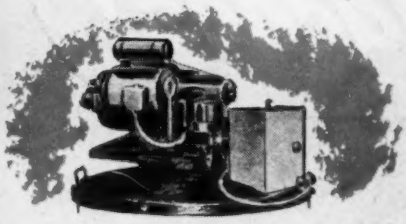
C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

"TIME FOR YOUR NEXT FEEDING, BABY!"



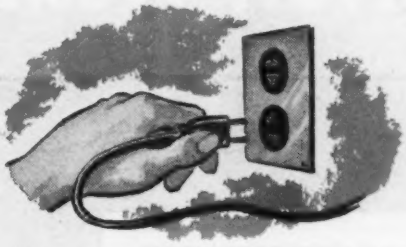
It doesn't look like much—that little box. But, it can keep a $30,000 machine's bearings from freezing with the heat! It's as simple and accurate as the electric clock in your kitchen. And, unlike a human being, it can't make costly mistakes. What is it?



"LUBRICATION BY THE CLOCK"

1 Another innovation by Alemite, world's authority on modern lubrication. It's a new development in pumping mechanisms for centralized lubrication systems that will mean savings of millions of dollars in every field of industry.

Fully automatic, it once and for all eliminates the possibility of costly human error. It automatically assures the positive, safe lubrication of scores of machine bearings at *any* set interval of time without aid. The only attention needed is the changing of empty lubricant drums for full ones.



SET IT! PLUG IN! FORGET IT!

2 The mechanism in the box can be set to lubricate at any time interval you choose. Plug the cord into an electric socket and forget it! From then on the lubrication of the machine is in the hands of the time clock.

"SQUAWK!" "HELP" "DANGER"

3 As a further safeguard for machines, a "howler" warns noisily and flashes a red light when lubricant drum is empty. Absolutely nothing is left to chance.

* * *

Alemite Automatic Centralized Lubrication is available with both electric and pneumatic pumps. By eliminating costly repairs caused by "hit-or-miss" lubrication, these units can quickly pay for themselves.

ALEMITE

REG. U.S. PAT. OFF.

First in Modern Lubrication

CONSULTATION • EQUIPMENT • LUBRICANTS

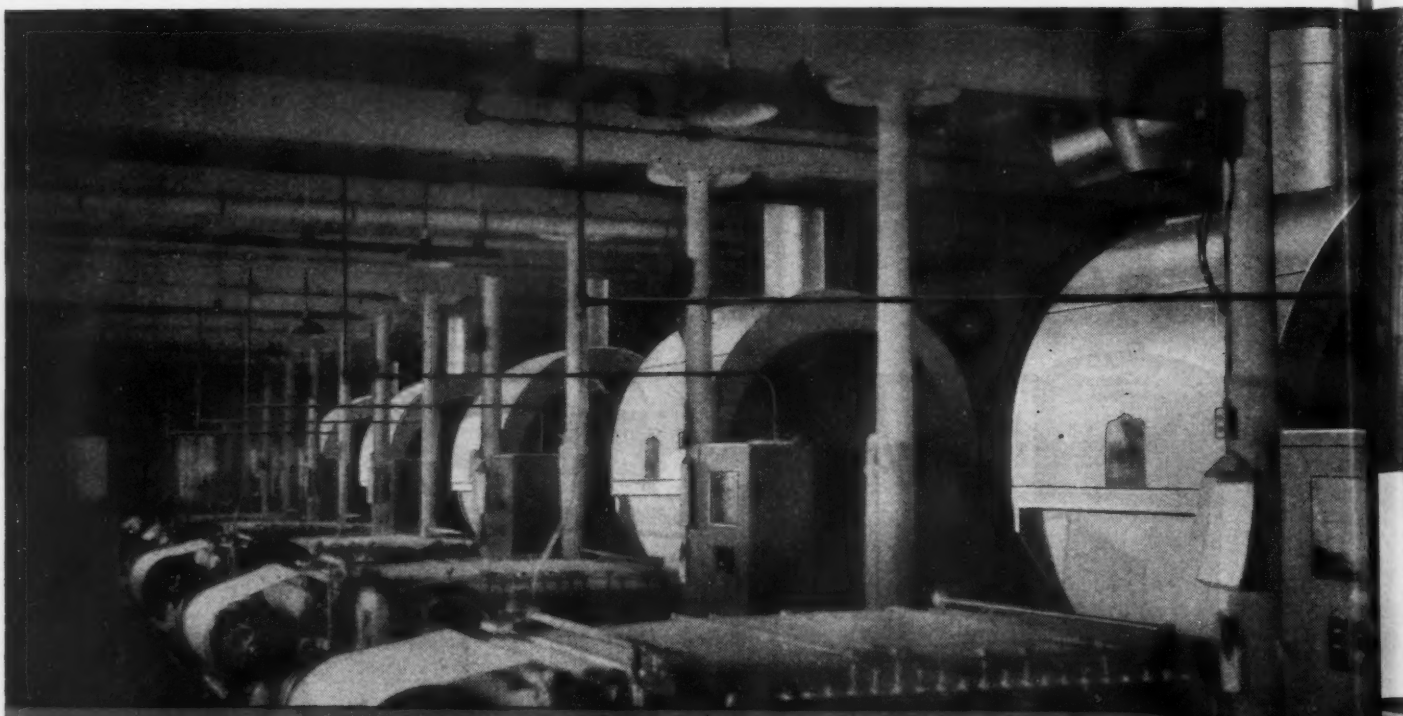
ENGINEERING — Another Product of STEWART WARNER — **MAINTENANCE**

SEE HOW "LUBRICATION BY THE CLOCK" WORKS . . . RIGHT AT YOUR DESK!

Without obligation, have an Alemite Lubrication Specialist explain "Lubrication by the Clock." Have him demonstrate the four new Alemite Centralized Systems right in your office, with ingenious, transparent working models. These systems can be adapted to almost any machine, large or small, and handle *oil* or *grease*.

With Alemite Centralized Lubrication, you can end failures of lubricated parts, cut lubrication time more than 95% . . . cut costs of lubrication nearly 98%. Because machines need not stop for lubrication you add "M.P.T."* to your plant. That's a competitive advantage that's well worth looking into. Write—Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

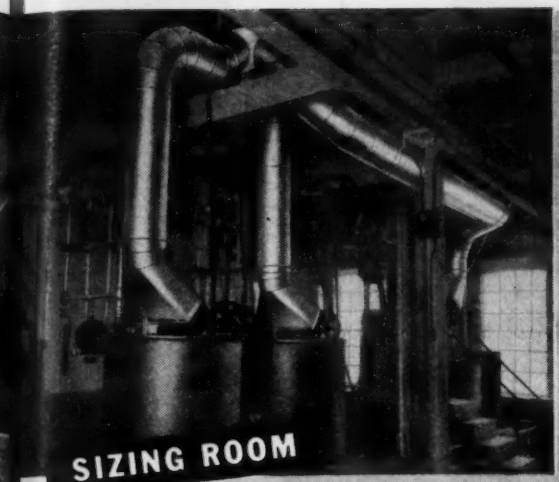
**More Productive Time*



They took the AIR cure for Production Headaches!

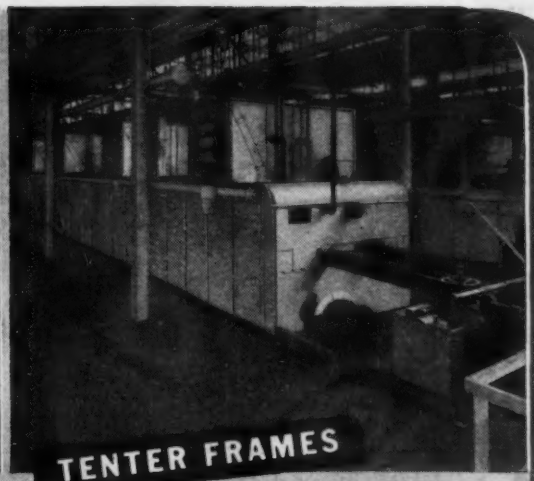
SLASHER ROOM

Do you want the definite operating advantage of eliminating condensation on walls and ceilings—as this mill did? Then look for a vapor removal system which will maintain an almost constant dew point. Soundly engineered the Sturtevant way—power and maintenance costs can be minimized. Top efficiency maintained under varying and extreme conditions.



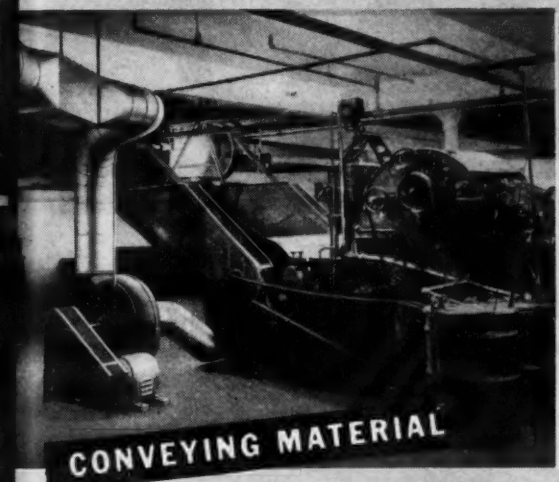
SIZING ROOM

Vapors given off by sizing kettles can play hob with production in many critical spots. Corral them, as does this mill, before they get a chance to wander, into the conditioned areas for instance. The pay-off on a correctly designed and installed Sturtevant System is found in better production with less spoilage.



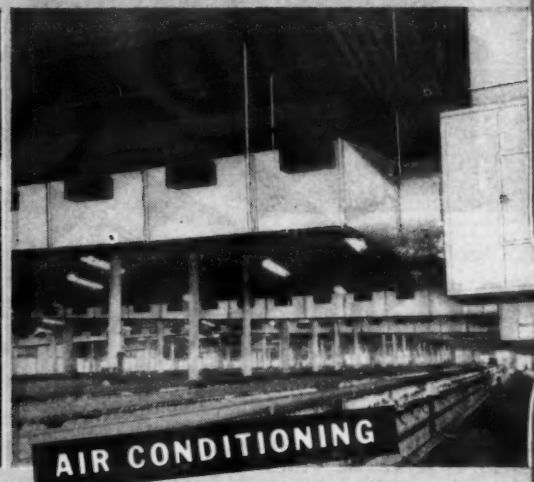
TENTER FRAMES

Whatever the finish or construction of your goods, Sturtevant can fit your needs like a glove. For instance, a Sturtevant Standard Dryer to dry at the rate of 115 yards per minute—at no increase in operating cost. To hit a faster pace, the new #45 Tenter Frame Dryer—with speeds up to 250 yards per minute is ready. Four are going in now.



CONVEYING MATERIAL

Scoured wool, here at New Jersey Worsted Mills, is conveyed from the dryer to storage and processing areas at the rate of over 200 pounds per minute. Sturtevant Systems can handle your material from picker to card—and distance is no barrier. Napper Exhaust Systems, also by Sturtevant, are hanging up enviable records in well-known mills.



AIR CONDITIONING

"Climate A La Carte" by Sturtevant is widely recognized as a valuable contribution to textile progress. This Vap-Air Blender installation is but one of 4 well-proved ways by which you can have your mill Sturtevant Air-Conditioned, well within your budget—and without the expense of mechanical refrigeration.

VAPOR ABSORPTION

HEATING & VENTILATING

DRYING

PNEUMATIC CONVEYING

SLASHER EXHAUST

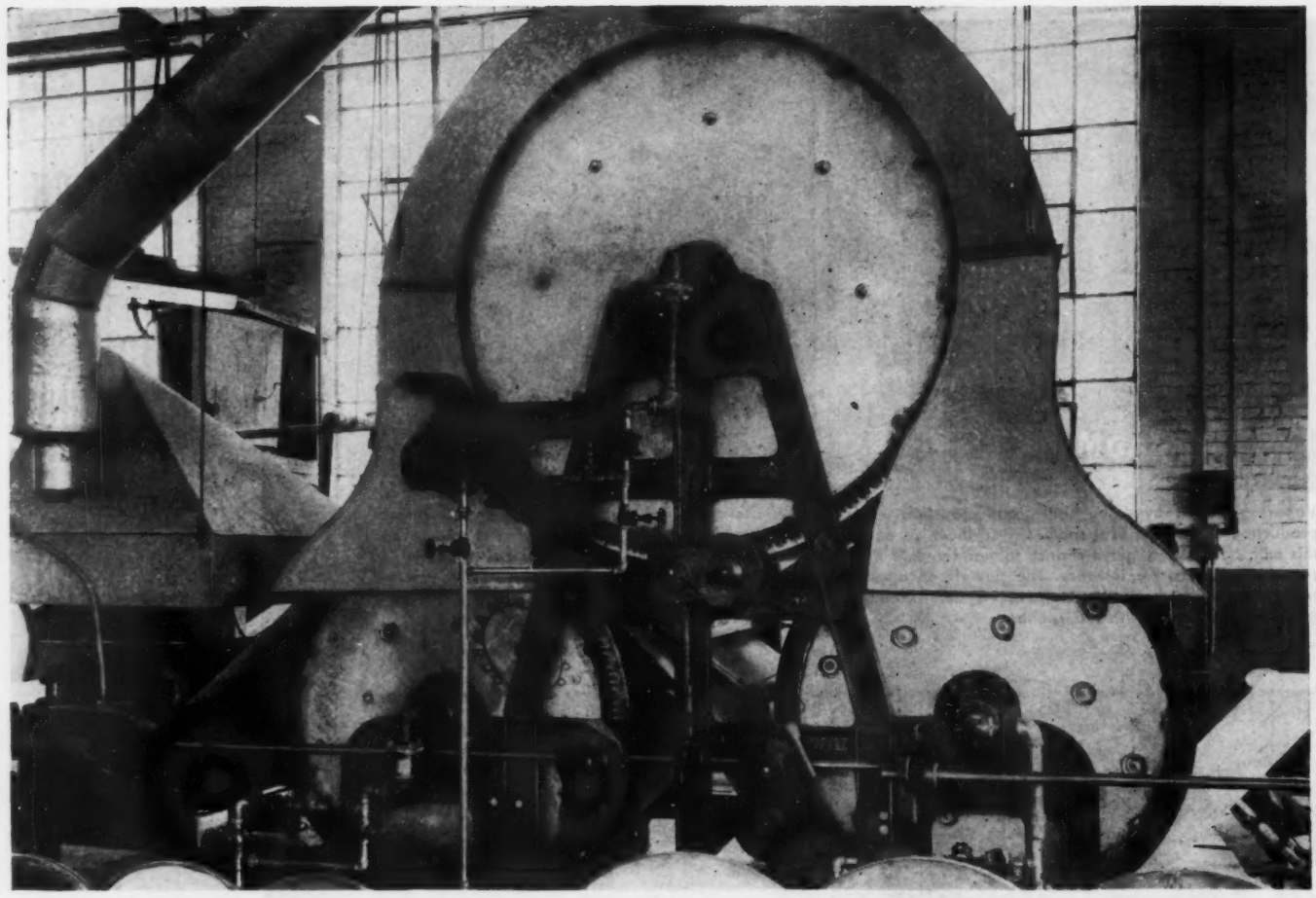
AIR CONDITIONING

Improved product quality . . . faster production . . . lower costs . . . better working conditions . . . no need to tell *you* how important these factors will be in meeting the stiff competition that lies ahead! But chances are your Sturtevant representative can tell you something about how *engineered air* can help you attain these objectives.

Whether it's a single unit of equipment or a complete engineered system "tailor-made" to fit your individual requirements, there's a Sturtevant district engineer near your mill who will be glad to give you the benefit of his long experience in textile work. Why not call him in for an informal chat about your problems? Or better still, invite him to confer with your postwar planning committee. No obligation, of course. For further information, write:

B. F. STURTEVANT COMPANY
Hyde Park Boston 36, Mass.

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work



HAVE YOU AN EXTRA 5′ CYLINDER?

This modern slasher, with extra cylinder, uses one 7′ and two 5′ cylinders. If you have an extra 5′ cylinder available you can greatly increase your slasher production at a minimum cost.

This special installation also takes a lower ceiling than the combination of two 7′ and one 5′ cylinders, yet the production is within 10% to 15% of the larger slasher assembly. Either system will increase production and improve the quality of production so greatly that the cost involved is repaid in a surprisingly short time.

In addition to the extra drying surface provided by the extra cylinder, specially designed contact rolls supply great warp contact with each cylinder. Positive gear drive means the cylinders pull the warp — the warp doesn't pull the cylinders, reducing tension and resulting in greater warp uniformity and elasticity. Ball bearing mountings on cylinder shafts and contact rolls provide smoother operation.

We will gladly make a study of your slasher room and make recommendations for modernization and improvements, with cost estimates, without obligation. Write or phone for further information — now.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

8000 RPM WITHOUT VIBRATION . . .

WITH PRECISION-MOLDED AND DYNAMICALLY BALANCED MICARTA SPINNING BUCKETS

Micarta spinning buckets save money—and speed output—in the production of synthetic fibers.

Molded to close tolerances, and balanced both statically and dynamically, they are virtually vibrationless at all operating speeds... withstand rough handling and continuous usage much better than previous materials.

This application of Micarta demonstrates some of the many advantages Micarta offers for textile mill applications. It is resistant to water, oils and acids. It absorbs vibration and deadens noise. It will not stain delicate fabrics. It is tough, smooth and long-wearing.

In addition to molding, Micarta can be fabricated easily from laminated stock shapes by machining, sawing, drilling, punching, tapping and threading with ordinary tools. Micarta "444"—a preformed material—can be post-formed with inexpensive dies into intricate, permanent shapes.

The Micarta Data Book gives complete details. Write for your copy, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-06374

PIRNS of Micarta are easily machined to close tolerances—for balance, to avoid vibration at high speeds. They are stainless, and stay smooth.

WASH CHUCKS of Micarta are long-lasting—unharmed by the chemicals met in this work—will not stain delicate fabrics.

FLINGERS of Micarta protect motors and gears from dripping liquids, chemicals and dust.

WESTINGHOUSE

Micarta

QUICK QUIZ:

Are you in a fog about the future?

Is it a question of:

Cooling your mill for maximum efficiency of workers?

Reaching and holding uniform and fully marketable regain?

Preventing health hazards in spinning of synthetics?

Controlling the physical properties of yarn for smooth running?

Obtaining uniform dimensions in knitted articles, such as nylon stockings?

Reducing seconds to a minimum?

EASY ANSWER:

CARRIER'S experience in textile mills is your assurance of sound and satisfactory answers to your special problems in air conditioning. Carrier has been serving the textile industry for more than 39 years ... and is prepared to provide many remarkable new developments for post-war installations. On present plans or future needs for air conditioning, refrigeration and unit heating, consult Carrier with confidence. Write fully.

Carrier Corporation, Syracuse, N.Y.

Carrier

AIR CONDITIONING • REFRIGERATION

INDUSTRIAL HEATING

PARACHUTES *into* PLOWSHARES

Rayon was never meant to be a destructive force, although it is a vital part of our military machine. Rightfully, its benefits belong to the flourishing days of peace.

As soon as possible, the military applications of rayon will be turned to peacetime uses. Methods developed to meet wartime specifications point to new, expanded vistas for the industry. Rayon's military performance surely bodes well for the future, promising a productive cooperation between rayon chemist, textile manufacturer, industrial engineer and fashion designer.

In a broader sense, our stable economy has one of its bases in a developing rayon industry. As employer of labor, creator of capital, booster of living standards, the future of rayon is firmly linked with the sound state of the country.

Tu-bize

TUBIZE RAYON CORPORATION • 2 PARK AVENUE, NEW YORK 16, N. Y. • *Acetate and Viscose Rayon Yarns and Fabrics*

Final Contest
$5,000.00
MATURITY VALUE IN
WAR BOND PRIZES
WILL BE AWARDED FOR NAMING THIS
"Stocking of the Future"
To be produced exclusively by Scott & Williams machines
First Prize . . . $1,000.00 War Bond
Second Prize . . $500.00 War Bond
Third Prize . $300.00 in War Bonds
12 Prizes . $100.00 War Bond Each
20 Prizes . . $50.00 War Bond Each
40 Prizes . . $25.00 War Bond Each

This is your final opportunity to compete in choosing a name for a revolutionary new type of nylon stocking, to be made as soon as nylon is available for its manufacture—a stocking so advanced in knitting technique that it may be truly called the "Stocking of the Future."

In order to obtain a name which is indicative of the superlative quality and fine appearance of this new stocking, Scott & Williams will award a total of $5,000.00 (maturity value) in War Bonds. To compete for one of these attractive War Bond prizes, you have only to suggest a name which you think appropriate for this luxurious, gossamer-sheer stocking, and submit it with a statement of 100 words or less, telling why you believe it will be *the* "Stocking of the Future."

Try to imagine a stocking of 15, 20 or 30 denier nylon, knitted on a machine even finer than magical 51 gauge, so precisely shaped and molded that it fits the slenderest ankle without a shadow of a wrinkle, yet is amply proportioned at the top. These delicately sheer stockings are entirely free of seams. Twisted leg seams are banished forever! The smooth, seamless foot insures real walking comfort. Heel and toe pockets are knit doubly strong where needed to resist abrasion. And these flattering wisps of loveliness retain their original shape and go sturdily through weeks of successive washings!

Lovely Dyne Sedgwick, Conover Cover Girl, is shown opposite, wearing these exquisite, seamfree nylon stockings. Notice, also, the photograph of the foot showing details of the Gussetoe and Post War Heel with its double-extended gussets—Scott & Williams' exclusive (patented and patents pending) features. A study of these, and a careful reading of this advertisement and the rules, will aid you in the selection of a name and the preparation of your statement. *This is the final announcement of the Contest, so do not delay in mailing your entry. Contest closes July 31, 1945. Send your suggestions* TODAY.

Announcement

Dyne Sedgwick, Conover Cover Girl, Demonstrating the new Scott & Williams "Stocking of the Future"

1. Notice the added volume where needed, given by the gusset fabric knitted into each side of the toe section.
2. The right angles formed by the gusset wales (vertical stitches) and the wales of the toe fabric are the only method of giving the toe of the stocking ample fabric stretch in both length and width to assure cool comfort for active feet, even on hottest days.

These are patented features.

3. Notice how the sturdy heel fabric, while entirely out of sight, extends almost to the top of the shoe, covering the knob of the heel where abrasion might occur.
4. The heel gusset nearest the toe extends the heavier fabric under the entire ball of the heel.
5. Right-angled direction of wales (vertical stitches) at the beginning and end of heel prevents heel slippage up or down or to the side.
6. Exclusive angled wales give real comfort because of ample two-way stretch.
7. Upper heel narrowing smooths away every ankle wrinkle.

These exclusive heel features are covered by applications in the United States Patent Office.

HERE ARE THE RULES

1. On one side of a plain sheet of paper, write your suggestion for a name which you think appropriate for the new nylon stocking without a seam, described in this advertisement. Immediately below the name write a letter of not more than 100 words telling...why you believe it will be *the* stocking of the future. Then print your name and address plainly. That's all!

2. You may submit as many entries as you wish, but each must be on a separate sheet of paper. No more than one prize will be awarded to a single contestant.

3. The contest is open to anyone in the continental United States or Canada, except employees of Scott & Williams, Inc., their advertising agencies, and their respective families. All entries must be the original work of the contestants, submitted in their own names. The contest is subject to all Federal, State and Dominion regulations.

4. All entries and ideas therein become the property of Scott & Williams, Inc., to use as they see fit. No entries will be returned.

5. Seventy-five prizes totaling $5,000 in War Bonds (maturity value) will be awarded to the better entries as follows:

1st Prize	$1,000 War Bond
2nd Prize	$500 War Bond
3rd Prize	$300 in War Bonds
12 Prizes	$100 War Bond each
20 Prizes	$50 War Bond each
40 Prizes	$25 War Bond each

All the winners will be notified by mail and a list of winners will be published as soon as possible after judging has been completed.

6. The winning names will be selected by an independent organization of experienced contest judges and a group of prominent fashion authorities...on the basis of their originality and appropriateness for advertising and sales purposes. In case of ties, the 100-word letter will be the deciding factor...on the basis of aptness of thought, sincerity, interest and originality. The decision of the judges will be final.

7. This contest closes midnight July 31, 1945, and all entries must be *postmarked* before that date and received before August 10, 1945. Mail your entry to:

STOCKING OF THE FUTURE CONTEST
SCOTT & WILLIAMS
P. O. Box 23, New York 8, New York

CONTINUOUS production of clean yarn ordinarily requires countless hours of attention from spinners or special cleaning crews. These hours can be measurably reduced and a much cleaner yarn produced by preventing lint accumulation with American MonoRail Automatic Cleaners.

Efficient cleaning comes from a swirling or cyclonic action of air currents produced by American MonoRail Automatic Cleaners. A proper velocity and correct current do the cleaning without harmful disturbance of roving or yarn. Cyclonic Cleaners consist of traveling blowers, self-propelled around a loop of MonoRail track. One fan sets up the cyclonic currents directed down and around the machines, while another fan sends a column of air directly against the ceiling.

Let an experienced American MonoRail engineer tell the complete story of Controlled Cyclonic Cleaning for spinning, winding, twisting and warping operations. Write for new 24-page book explaining cost saving advantage.

THE AMERICAN MONORAIL CO.

13108 ATHENS AVE. CLEVELAND 7, OHIO

National Dyes for Gloves

Accent notes imparting an "all-dressed-up" touch to the ensemble, are fabric gloves, the most-shopped-after-item in a woman's wardrobe. And, we might add, one of the most difficult to color-style and dye.

National Dyes for Gloves combine uniformity of tone with the necessary fastness to light, washing, perspiration, rain-spotting and crocking. May we work with you on your next color-match?

National Aniline Division

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET · NEW YORK 6, N.Y.

BOSTON · PROVIDENCE · PHILADELPHIA · CHICAGO · SAN FRANCISCO · CHARLOTTE
GREENSBORO · ATLANTA · NEW ORLEANS · CHATTANOOGA · PORTLAND, ORE. · TORONTO

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

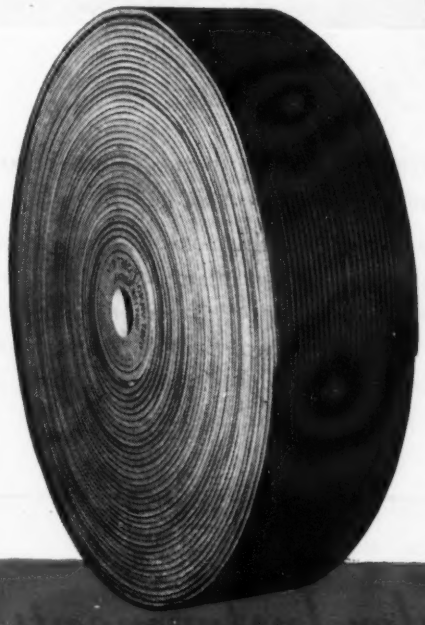
●

ESTABLISHED 1840

When "C" Day comes . . .

In the near future the day of Conversion and Competition, that we call "C" Day, will come to your mill. That will be the signal to get back 100% into consumer goods. Will your equipment be ready to compete with others as you did before the war?

Are your drives belted efficiently? Have you looked into the power saving possible with Modern Group Drives? Have you investigated the increased production possible with *treaded* leather belts, made exclusively by Houghton?

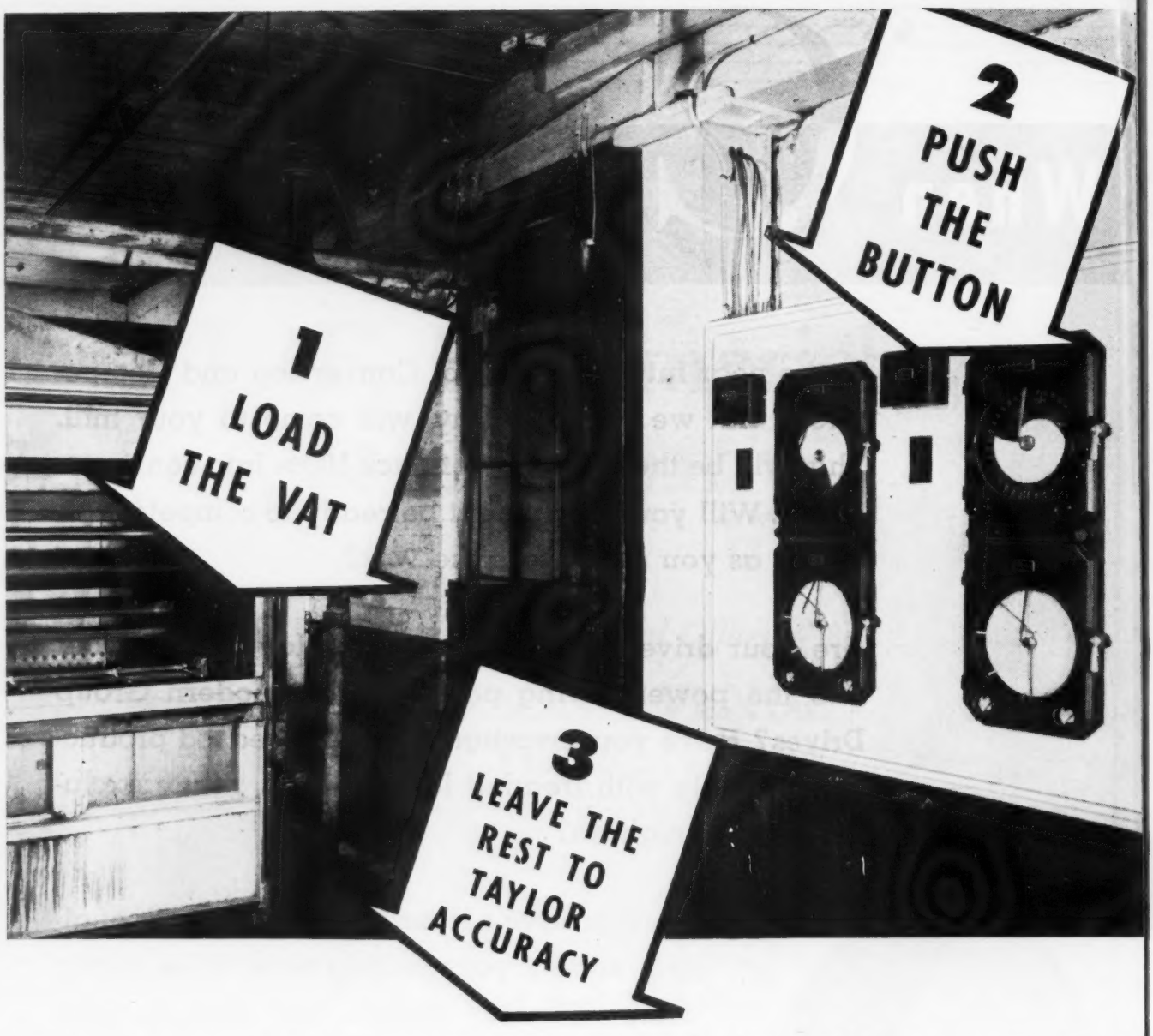


You can have a Houghton transmission engineer survey your belting now, to be ready when "C" Day comes. The service costs nothing, and may well result in extra yardage per machine . . . more production without increased cost, once your power transmission set-up has been modernized. Write or call E. F. HOUGHTON & CO., 303 West Lehigh Ave., Philadelphia, or Charlotte, N. C.

Houghton's

VIM TRED *and* OKAY TRED

LEATHER BELTING



NO, we know piece dyeing isn't *quite* this simple. We know you've got other variables to worry about. But when it comes to TIME and TEMPERATURE the Taylor Fulscope Time Schedule Controller does mighty near the whole job AUTOMATICALLY. Everything except loading, unloading and starting over again on the next batch. Temperature is controlled to a degree not previously thought possible on this type of machine, and timing is equally precise. You can change the timing *with the same cam* merely by speeding up or slowing down the cam movement.

A Time Schedule Controller will actually save you money by giving you more uniform shades, a substantial steam saving and most economical use of dye stuff. It saves labor by doing the job *better* than any man could and releasing operators for more important duties. Heaven knows there's enough to do around a dyehouse without *borrowing* trouble!

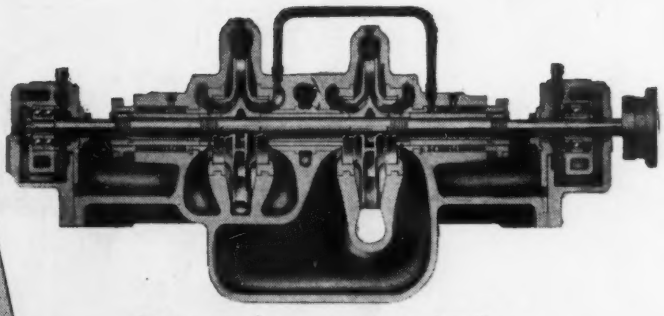
If you'd like to think about this flexible, practical automatic control setup for *your* plant, call your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording, and controlling temperature, pressure, humidity, flow and liquid level.*

ARMY NAVY

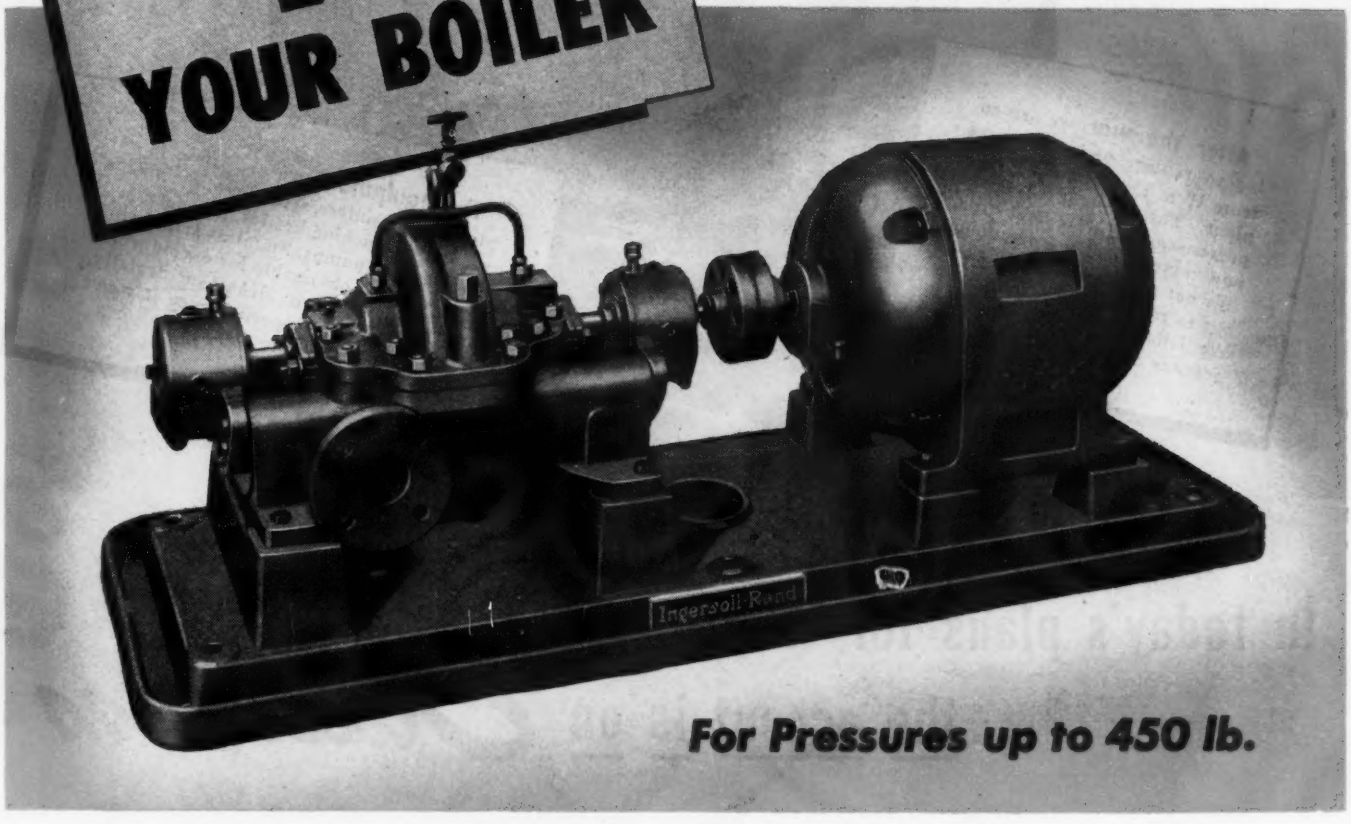
Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

★ KEEP ON BUYING U. S. WAR BONDS AND STAMPS ★

MADE TO fit YOUR BOILER



Note: simple, compact construction.



For Pressures up to 450 lb.

Hundreds of industrial boilers requiring feed pressures up to 450 pounds per sq. in. are fed by Ingersoll-Rand Class GT pumps. Recent improvements in materials and design, such as new casings and oversize oil-lubricated ball bearings made these pumps even better boiler-feeders.

Sturdy two-stage pumps—they are available in sizes to match the capacity of a wide range of boiler units. Different combinations of materials, selected by the I-R metallurgical department, provide long-life service with any boiler-feed water.

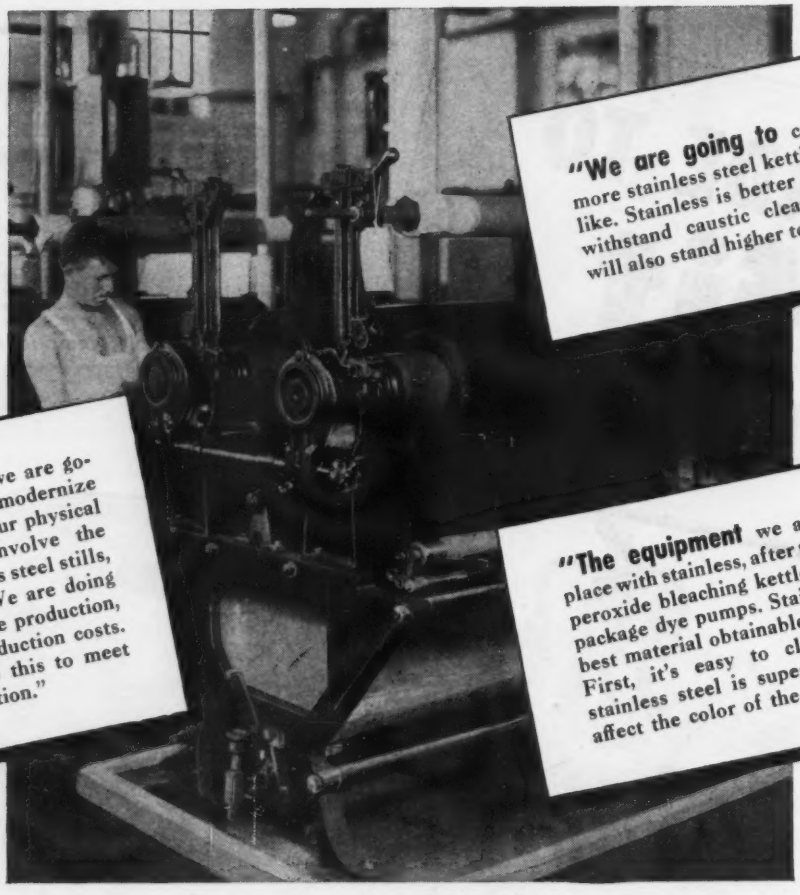
If your boiler plant requires a feed pump in the range of these GT units, up to 1500 gal per min, you can't find a more dependable pump. If your boiler plant requires a larger or a smaller feed pump, there is an equally efficient and dependable unit in the *complete* Ingersoll-Rand boiler-feed line. Ingersoll-Rand Company, Cameron Pump Division, 11 Broadway, New York 4, N. Y.

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

10-634

COMPRESSORS • AIR TOOLS • ROCK DRILLS • TURBO BLOWERS • CONDENSERS • CENTRIFUGAL PUMPS • OIL AND GAS ENGINES



"After the war we are going to replace and modernize from 10 to 15% of our physical plant. This will involve the purchase of stainless steel stills, new mixers, etc. We are doing this not to increase production, but to reduce production costs. We'll have to do this to meet postwar competition."

"We are going to continue to install more stainless steel kettles, mixers and the like. Stainless is better . . . because it will withstand caustic cleaning solutions and will also stand higher temperatures."

"The equipment we are going to replace with stainless, after the war, includes peroxide bleaching kettles, dye pots, and package dye pumps. Stainless steel is the best material obtainable for dyeing work. First, it's easy to clean. Incidentally, stainless steel is superior since it won't affect the color of the dye."

In today's plans for tomorrow ...the accent is on *Stainless*

AS THE time approaches when it will again be possible to redesign equipment and replace ineffective materials with those that have proved their worth in the fiery furnaces of experiences, hard-headed plant engineers and works managers are focusing their attention on Stainless Steel. And for one reason only—because of Stainless Steel's demonstrated economic superiority.

No other commercial metal can equal Stainless Steel in its high resistance to so many types of corrosives. None has superior ability to resist high temperatures and high pressures, nor has greater immunity both to stain and tarnish.

Not only is Stainless Steel impervious to contamination, but it will not contaminate materials in process. Its smooth, dense surface cleans easily, remains permanently bright and new-looking. Solid metal throughout, its goodness is not just skin deep, but goes through and through, cannot wear off.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
United States Steel Supply Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

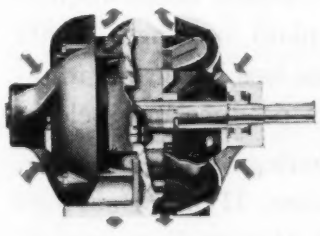
All these valuable and practical advantages that Stainless offers, you will find at their *best* in U·S·S Stainless Steel. This perfected, time-tested steel is produced on *special* equipment by skilled and experienced men whose entire attention is devoted to constantly perfecting its characteristics and improving its performance.

USS STAINLESS STEEL UNITED STATES STEEL

UNITED STATES STEEL

OF MOTOR MAINTENANCE

Here's how the Lint-Free Motor cleans itself. This simple construction will cut your maintenance costs—and your repair parts needs. Get the complete facts—write for folder B-3515.



Here's a self-sealed bearing you can grease and forget—for five years! We've built it into our *Lint-Free* Motor, to give you more production—*with less maintenance.*

Prelubrication at the factory simplifies your maintenance problem two ways—you don't have to grease the motor—and there are no oily spots to collect lint.

That's only part of the story. The Lint-Free Motor has six built-in wind tunnels that sweep air (and air-borne lint) in—through—and out—*fast*—to keep the motor cool—and *clean.* That's why they're *Lint-Free Motors.* Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-21320

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

LINT-FREE MOTORS

A loom that turns easily by hand!

SETTING the reed correctly in relation to the fell of the cloth on a C&K Type S Automatic Rayon Loom requires accurate, skilled handling of certain loom parts.

The weaver turns the handwheel of the crankshaft with one hand while his other hand manipulates the take-up.

Unless this setting is properly made, a mark will appear in the cloth and imperfect fabric results.

When crankshaft, take-up shaft, bottom shaft and rocker shaft are mounted in Hyatt Roller Bearings, the loom turns over easily. Accurate settings and better cloth result. Weavers are less tired at the end of a shift.

Hyatts reduce friction, hence require less power than plain bearings. Hyatt equipped looms use less lubricant, minimize maintenance, produce more cloth.

Specify this bearing by name when you buy new looms. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

PRIMARY HEATER

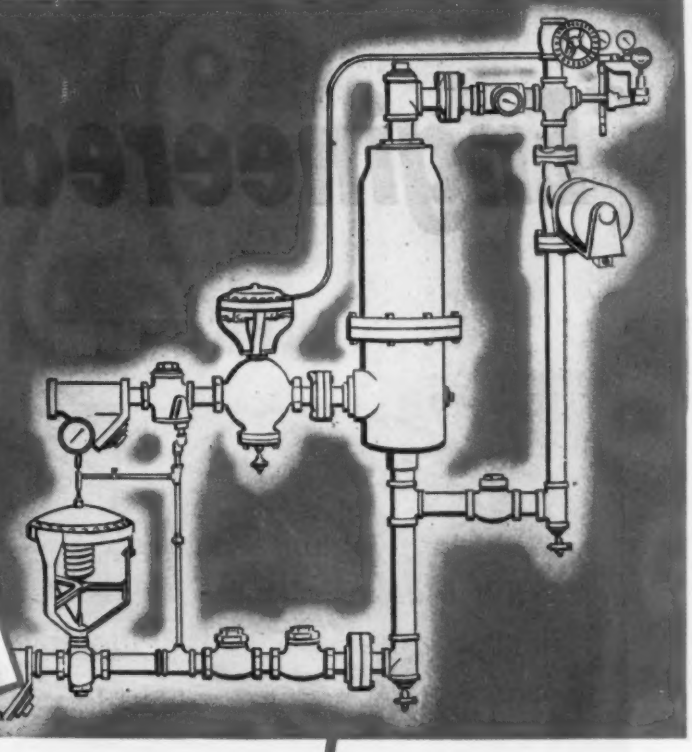
Capable of supplying any specified volume of hot water up to 200 gallons per minute, the PICK INSTANTANEOUS HEATER is practical as a primary source of hot water.

SUPPLEMENTARY HEATER

Easy installation and accurate temperature control at any temperature within the effective range of 40° to 180° Fahrenheit, make this heater useful for specialized "spot" applications near the point of use.

"BOOSTER" HEATER

Easily installed in the discharge line to automatically "boost" and correct temperature deficiencies, this heater can be used to augment overloaded or currently inadequate facilities.



Pick INSTANTANEOUS HOT WATER HEATERS

Instant Hot Water at Exact Volume and Temperature

A steam injection heater with accurate control, the PICK INSTANTANEOUS HEATER combines the advantages of instant heating and maximum efficiency with 100% transfer of heat from steam into water.

The new and exclusive PRESSURIZER PISTON automatically compensates for all changes in heater load. It gives instant and automatic control at all volumes and at any given steam pressure. Operating as part of the steam injection tube it acts to restrict the internal area of the tube so as to maintain steady injection pressure at all levels of heater load.

Heaters can be obtained in seven sizes rated according to the maximum number of gallons per minute each will deliver. Any heater is capable of sustained delivery of its full capacity or any portion thereof without temperature drop.

Operation at any selected steam pressure from 40 to 100 pounds. You can choose the right heater for your plant for each PICK INSTANTANEOUS HEATER is pre-engineered and factory assembled and comes as a complete packaged unit "custom-selected" to fit your specifications.

CONSTANT UNIFORM TEMPERATURE
Thermostatically controlled, every gallon is delivered at the specified temperature.

COMPLETELY AUTOMATIC
The only heater made having the patented, new, internal steam injection pressure control, the PICK INSTANTANEOUS HEATER instantly adjusts itself to heavy or light demands as changes in load occur.

QUIET OPERATION
Positive steam injection with maintained control. There is no noise or pipe hammering while starting, stopping, or running, and no banging, shaking pipes or machinery, regardless of change in load.

FULL CAPACITY
Capable of intermittent or sustained operation it delivers any portion of rated capacity without loss of efficiency or fluctuation in temperature.

SELECTIVE REGULATION
Any pre-determined temperature within the effective range from 40 to 180 degrees may be instantly selected and maintained with accuracy.

For complete information and specifications write the Pick Manufacturing Co., Dept. 1702, West Bend, Wisconsin.

ARMY-E-NAVY

Pick HOT WATER HEATERS

Made by **PICK MANUFACTURING CO.**
WEST BEND, WISCONSIN, U. S. A.

"Engineered Lubrication . . .

TYCOL

GREEN CAST GREASES REDUCED APPLICATIONS BY 33⅓% AND CONSUMPTION BY 66⅔%

One well-known plant met the usual trouble of extreme pressures with the resultant excessive wear on a huge piece of equipment — changing to *Tycol Green Cast Grease* stopped this highly unsatisfactory condition immediately.

Why do Tycol Green Cast Greases stand up in the toughest lubricating jobs — where other greases quickly run out or separate into caked soap deposits? The answer is simple. Tycol Green Cast Greases are made from high quality cylinder stock and well refined neutral oil combined with a minimum of soap for a given consistency. Green Cast Grease is water repellent . . . and is engineered to "take it" under all conditions.

A Tide Water Engineer will be glad to give you full information.

DRUMS! DRUMS! DRUMS!

War needs make it extremely important that all empty drums be returned as soon as possible.

TYCOL INDUSTRIAL

ENGINEERED FOR EVERY

...the TYCOL way

CUTS DOWN REPAIRS...
SPEEDS UP PRODUCTION

If you want peak efficiency . . . low-cost operation – turn to Tycol "Engineered Lubrication" for all-important help in securing these results. Why? Because each Tycol lubricant is scientifically engineered to meet definite service conditions . . . to reduce wear and maintenance costs to a minimum. That's why so many successful operators have turned to Tycol for low-cost lubrication.

In developing this individualized line of lubricants, Tide Water has complete control over its own products – from oil field, through transportation, to refining. The most modern processes are used to refine selected crudes . . . to blend and compound Tycol's "specifically engineered" oils and greases.

For complete information regarding the specific oils and greases best suited to meet your requirements, call or write your nearest Tide Water Associated office. There a Tide Water engineer, thoroughly experienced in all phases of industrial lubrication, will give you the full benefit of his knowledge.

Have you received your copy of "Lubricania"?

This informative handbook, "Tide Water Associated Lubricania", gives clear, concise descriptions of the basic tests used to determine important lubrication properties – Pour Points, Viscosity, Neutralization, and many others. For your FREE copy write: Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

...LUBRICANTS
...Y SERVICE NEED

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

PRINCIPAL OFFICES
BOSTON · PHILADELPHIA
PITTSBURGH · CHARLOTTE, N.C.

Beautiful... but dumb

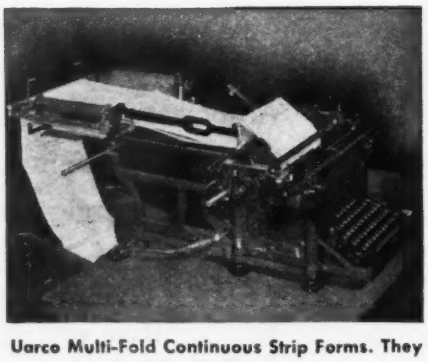
The hands of a typist! Beautiful, expressive, skilled hands . . . but such hands are stricken dumb, are no good to you when they're away from the keys of a typewriter.

And, too often, a typist capable of 70 words a minute is lucky to average 25 . . . forced to waste from 17 to 78 per cent of her time because of *you.*

How come? Simply by providing such skilled workers with obsolete forms. Time-wasting forms that must be fabricated by hand during office hours — aligned, carbon stuffed, set in position before typing can begin.

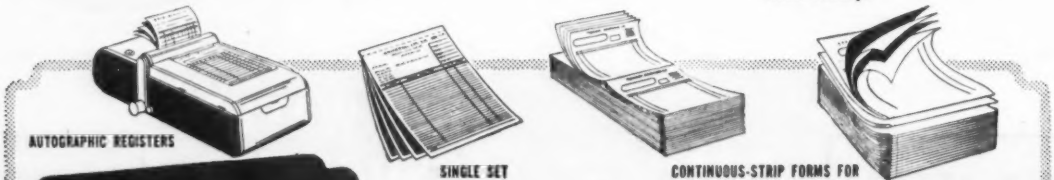
Check over the job the forms in your office are doing today. And you will be interested in what Uarco has to show you. For Uarco creates better forms . . . prefabricating carbons and papers that save time and money wherever forms are used.

Spend a half hour with a Uarco representative. He'll help you select the right forms . . . forms that allow your typists to keep typing.



Uarco Multi-Fold Continuous Strip Forms. They bring easy handling and loading to typewriters, bookkeeping or billing machines. Perfect alignment—carbon-positioned—consecutively numbered. This particular form provides legible, clean copies. Easy to set up, it feeds the machine while the typist types. For further information, write today.

UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*



UARCO

BETTER BUSINESS FORMS

What has Star got?

Before you pick any motor to power your postwar product we'd like to submit 3 teasers . . .

(". . . and I know 'em all!")

Why did a famous maker of Materials Handling Equipment* not long ago say — "There isn't a Brake Motor built that can touch that Star, and I know 'em all"?

(". . . you like 'em tough")

Why did one of the world's biggest makers of Machine Tools* recently choose Star to work with on a tough application problem?

(". . . laying it in your lap")

Why did a noted Dairy Machinery company* pick Star to develop a unique small Generator for their new machine?

*(*Name on request)*

We needn't tell you that buyers like these three are motor-wise, and hard-boiled in their determination to obtain the most satisfactory solution to powering their products. . . .

And we needn't tell you that we have engineering brains second to none, or that we have excellent production facilities. Without them, we could not get to first base. . . .

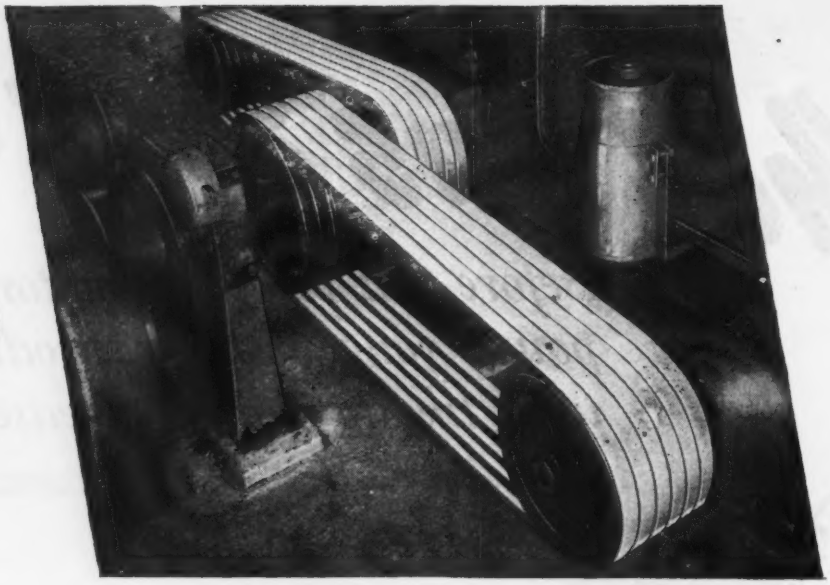
What, then, is the "something extra on the ball" we *must* have to lead such concerns to choose to work with Star on their new products?

You'll find it's Star's approach to a motor problem – a willingness to give your job "top billing". There's no stop-watch on the brains applied to your problem – and there are not so many problems that we can't apply our best brains to all.

That's why you, too, will choose wisely by making Star your postwar "Motor Department". Our designing facilities can be placed at your command NOW, to solve any problems not covered by standard Star Motors, from ⅛ to 200 HP, some of which are available for early delivery. Star Electric Motor Co., 200 Bloomfield Ave., Bloomfield, N. J.

STAR MOTORS

POWER PACKAGED AS YOU NEED IT



HERE IS A FACT WORTH KNOWING

GATES *Standard* VULCO ROPES

—now made of *Synthetic Rubber* are

OUTWEARING even *pre-war* belts of *NATURAL RUBBER!*

NO ONE before the war had ever built a V-Belt that could stand the service now daily delivered by Gates V-Belts on army tanks, tractors and self-propelled big guns. Gates developed these greatly superior V-Belts through intensified, specialized research—and Gates is building these belts entirely of synthetic rubber.

✔ **The importance of this fact to industrial V-Belt users is this:**

Every improvement developed by Gates for these Army V-Belts has also been added, day by day, to the quality of the standard Gates Vulco Ropes which have been delivered to you.

It is only rarely, of course, that improvements developed primarily for army combat use can be passed on immediately to the general user—but there are very good reasons why Gates has not been called upon to withhold these important V-Belt improvements from Industrial V-Belt users.

Efficient production in our nation's industrial plants is a prime essential to our winning of the war—and better V-Belts than ever before have been urgently needed to keep machines going on the forced-draft, war production schedules that have had to be maintained *24 hours a day!*

That is why Gates has been able to embody in the standard Gates Vulco Rope every V-Belt improvement which Gates specialized research has developed for use on the Army's motorized equipment—and that is why you are finding that your standard Gates synthetic-rubber Vulco Ropes are today giving you better service than any V-Belts that were built before the war.

Gates

THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY

Engineering Offices and Jobber Stocks in All Large Industrial Centers

457

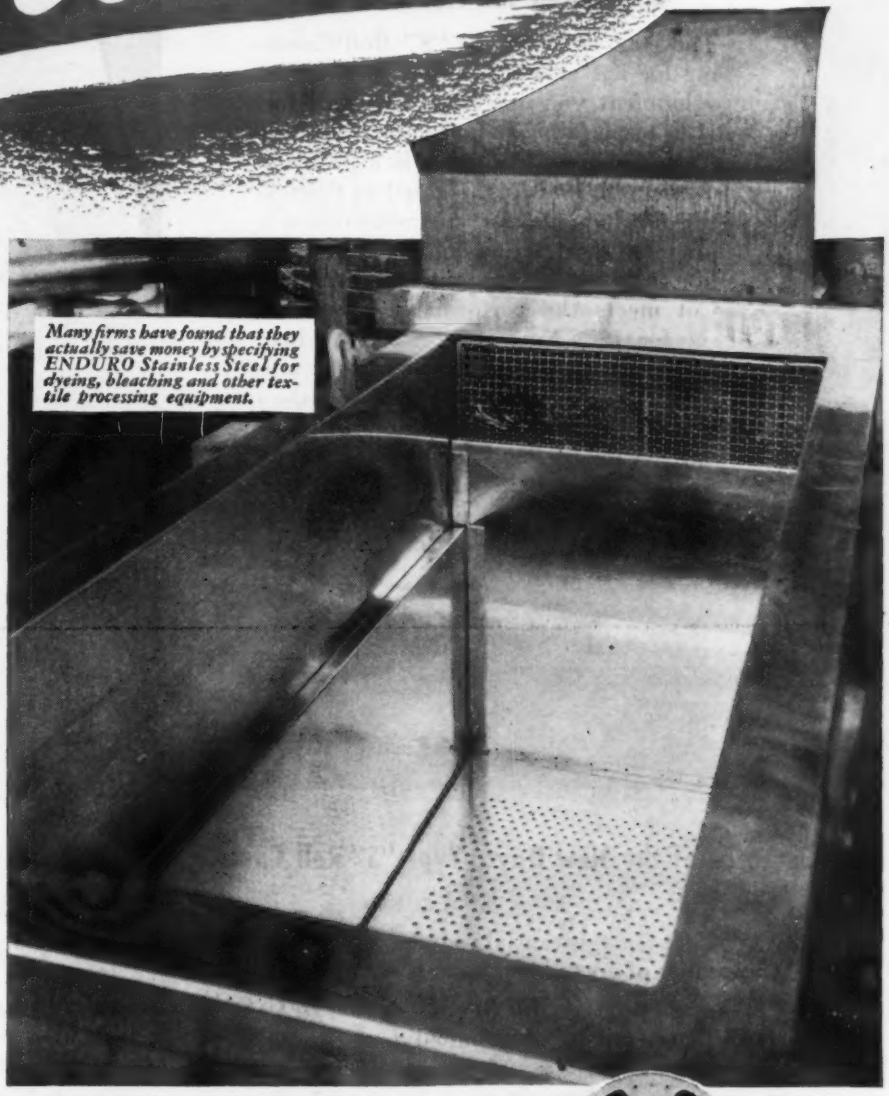
GATES VULCO ROPE DRIVES

CHICAGO 6, ILL., 549 West Washington DALLAS 2, TEXAS, 1710 N. Market Street ATLANTA 3, GA., 738 C & S National Bank Building
CHARLOTTE 2, N. CAROLINA, 605 West Fifth St. NEW YORK CITY 3, 215-219 Fourth Ave. DENVER 17, COLO., 999 South Broadway
GREENVILLE, S. CAROLINA, 108 W. Washington Street BIRMINGHAM 3, ALA., 801-2 Liberty National Life Bldg.

IT PAYS TO PAY MORE

FOR EQUIPMENT THAT'S MADE OF LONG-LASTING

Enduro



Many firms have found that they actually save money by specifying ENDURO Stainless Steel for dyeing, bleaching and other textile processing equipment.

● It's true that the original cost of Republic ENDURO Stainless Steel is usually more than that of less durable materials. But it's also true that ENDURO's cost per year of service is less. *Actually, you are money ahead when you use ENDURO.*

Here's why—

ENDURO cuts maintenance and replacement costs. Its tough, smooth surface withstands rough use and abuse . . . lasts indefinitely because it is solid stainless steel throughout. It offers lifelong protection against rust and corrosion, and is unaffected by dyeing, bleaching and other textile solutions.

ENDURO cuts cleaning time and expense, too. Just a flushing with clear water, followed by wiping, cleans away every trace of color . . . enables you to switch from dark to light colors in a hurry.

ENDURO saves you money in countless other ways, too. It is as inert to dyeing solutions as porcelain, assuring true-to-shade colors throughout every batch. And once installed, ENDURO equipment stays on the job for dependable, long-time, trouble-free operation.

NOW is the time to talk to your equipment manufacturer about the money-saving advantages of using ENDURO Stainless Steel, when it again is available.

REPUBLIC STEEL CORPORATION

Alloy Steel Division • Massillon, Ohio

GENERAL OFFICES • CLEVELAND 1, OHIO

Export Department: Chrysler Building, New York 17, N. Y.

Republic

REPUBLIC STEEL — PRODUCTION FOR VICTORY

ENDURO STAINLESS STEEL

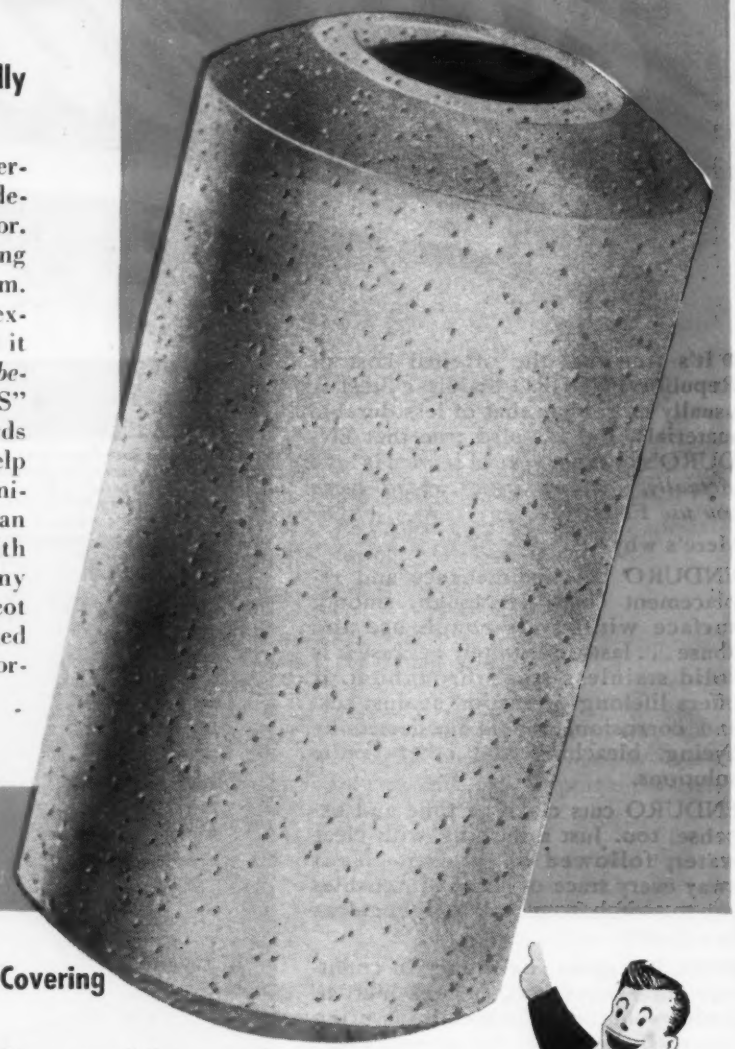
Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

Eyebrowing problems

New Type "S" Dayco Cot Especially Engineered for Flat Clearers

The New Dayco Type "S" Roll Covering for flat clearers is one postwar development you don't have to wait for. It is especially designed for spinning frames where eyebrowing is a problem. While new, and just released to the textile industry, Dayton engineers tested it for months in actual mill operation *before* they said, "Okay, the new Type "S" Cot meets the performance standards set for it". Now it is ready to help spinning room overseers get more uniform yarn with greater efficiency than ever before from frames equipped with flat clearers. Read below the many features of this new, remarkable cot that is being enthusiastically acclaimed by mill men who have had an opportunity to test it.



Features of the New Dayco Type "S" Roll Covering

1. Tests prove a substantial reduction in number of ends down over other types of roll coverings.
2. Does not have to be rebuffed for the special purpose of retaining noneyebrowing properties.
3. Regardless of the number of buffings, noneyebrowing qualities are not impaired.
4. No treatment necessary other than the normal buffing to secure satisfactory operation.
5. Gives equal long service between buffings.
6. Examination of clearer waste proves more foreign elements removed from yarn than other types of roll covering.
7. Specially compounded for uniform wear, lengthening service life.
8. Tests prove noneyebrowing features equally effective for special types of synthetic and synthetic blends.
9. Decreases flying lint in the spinning room.

NOW REDUCED!

Type "C" Dayco Roll Covering for use with Revolving Clearers

Type "C" Dayco Roll Coverings for revolving clearers have been standard equipment in hundreds of leading textile mills for over seven years. Mill room superintendents and spinning room overseers everywhere praise Dayco's ability to draft more uniform yarn and to reduce the number of ends down. Daycos are unaffected by temperature or humidity changes, resist the effects of oil and are static-free. As a result of their superior performance, precise cost accounting records show that the cost per hour of operation with Dayco Roll Coverings is unqualifiedly less.

A dozen advantages when you use Dayco Type "C" Roll Covering

1. Improved drafting
2. No grooving—less ends down
3. Unaffected by temperature changes
4. One-piece tubular construction
5. Longer service life
6. Easier to apply
7. Proper cushioning
8. Lower net roll cost
9. Static-free
10. Oil resisting
11. Unaffected by hard ends
12. Produces more uniform yarn

Roll Coverings by

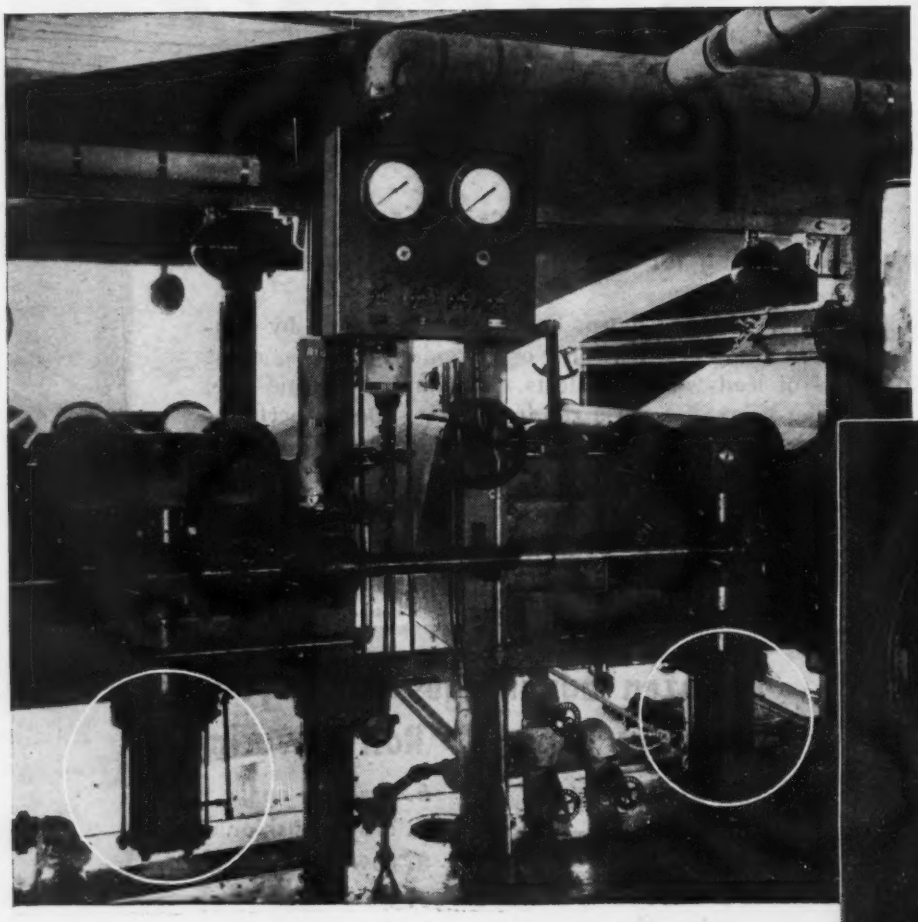
Dayton Rubber

REG. TRADE MARK — THE DAYTON RUBBER MFG. CO.

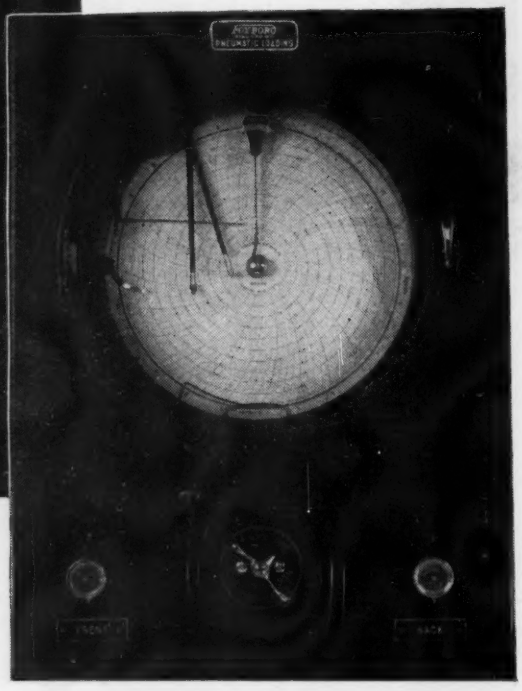
THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

Write today! Prove to your own satisfaction that there are roll coverings that can reduce costs and improve production! Write to **The Dayton Rubber Manufacturing Company, 401 Woodside Building, Greenville, S. C.**

BIGGEST ADVANCE EVER MADE
in Applying Roll Pressure!



Foxboro Pneumatic Loading on this slasher gives complete loading control from a single panel (top center). Pressure cylinders for one end of rolls shown in circles. Recording model (below) also available.



Foxboro Pneumatic Loading gives calibrated "cushioned" pressure with fingertip control!

Here's an improved roll loading system that enables you to adjust your roll pressures *instantly* and *exactly* in pounds per lineal inch of roll face. It eliminates all guesswork in setting up several machines to produce identical results . . . blocks danger of unsuspected overloading of costly rolls, too.

Foxboro Pneumatic Loading is the only system that gives you all the advantages of modern "cushioned" loading at its highest development. A simple twist of two knobs on the instrument exactly adjusts and equalizes the pressure on both ends of the roll . . . without fussy calculations . . . without corrections for roll widths.

What's more, this calibrated pressure is maintained automatically. Variations in material thickness, and any out-of-roundness of rolls, are automatically compensated. There's no bouncing of rolls to limit operating speed . . . and a flip of a lever unloads both ends of the roll instantly!

Why not call in a Foxboro Engineer to discuss how this improved roll loading can benefit your operation? No obligation involved. In the meantime, write for Bulletin B-306 containing details of this Foxboro development for slashers, dye padders, washers, mangles and other roll machines. **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.**

FOXBORO REG. U. S. PAT. OFF. **PNEUMATIC LOADING**

THE *prestige* VALUE

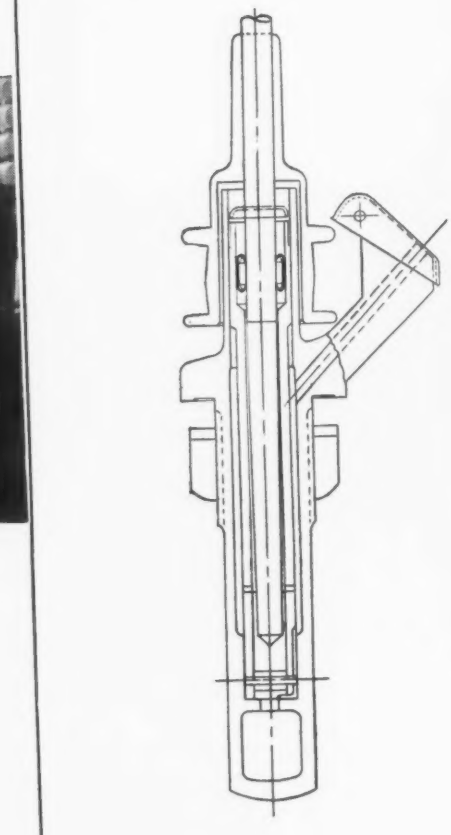
of fine knitting cannot be over-estimated. It continues to make sales and re-sales by the word-of-mouth testimonials of satisfied customers.

You can help to give your knit goods the prestige value of fine knitting through the continued use of machine-made Torrington Needles.

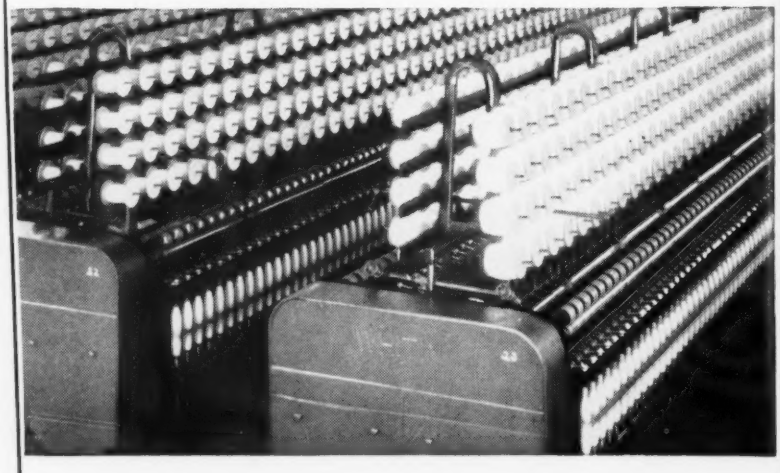
THE TORRINGTON COMPANY
Torrington, Conn., U. S. A.
Established 1866
Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis
Toronto, Canada

TORRINGTON
Latch Needles

Twister Spindles Turn Faster, Handle Larger Packages– on Torrington Needle Bearings



X-section shows application of light, compact Torrington Needle Bearings to twister spindles. Easy to install, maintain and lubricate, these modern anti-friction bearings are used on virtually all types of textile machinery.



Twister spindles can turn faster, handle larger packages and operate more efficiently when they are equipped with compact, easily-lubricated anti-friction Torrington Needle Bearings.

That's because these modern anti-friction bearings are specifically engineered to handle heavy loads at high speeds . . . to minimize time out for maintenance . . . to help machinery stand up to longer and more productive periods of sustained operation. Thus, wherever the aim is higher efficiency coupled with lower operating costs, you're quite likely to find these small but sturdy Torrington Needle Bearings "carrying the load."

Whether you design, build or operate textile machinery, you should know how Torrington Needle Bearings can help you increase output and efficiency. For complete information, send for our Catalog 32, showing the wide range of types, sizes and applications to textile and other machinery.

THE TORRINGTON COMPANY

TORRINGTON, CONN. • SOUTH BEND 21, IND.

New York Boston Philadelphia Detroit Cleveland Seattle
Chicago San Francisco Los Angeles Toronto London, England

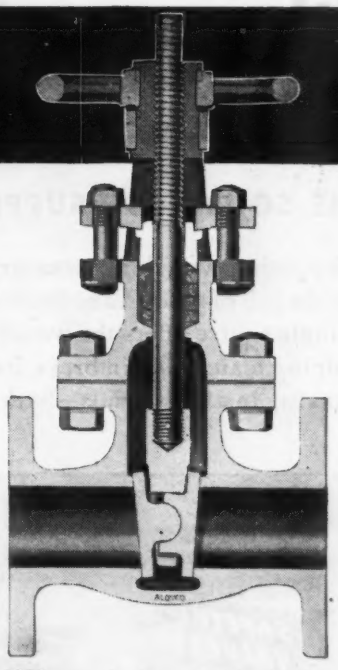
TORRINGTON NEEDLE BEARINGS

ALOYCO VALVES

STAINLESS STEEL

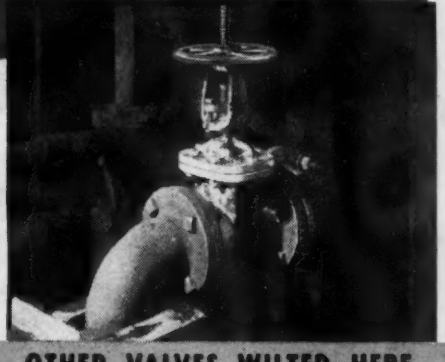
...THRIVE ON A MIXED ACID DIET at American Cyanamid

Long wear, rare repair—that's the record of the No. 111 Aloyco Gate Valves in the contact acid department of the American Cyanamid Corporation, Warner Plant, Linden, New Jersey. These valves are made of Aloyco 20, a low carbon, high nickel-chrome alloy also containing molybdenum and copper. The excellent resistance of this alloy to sulphuric and mixed acid over a wide range of temperatures and concentrations proves ideal here.



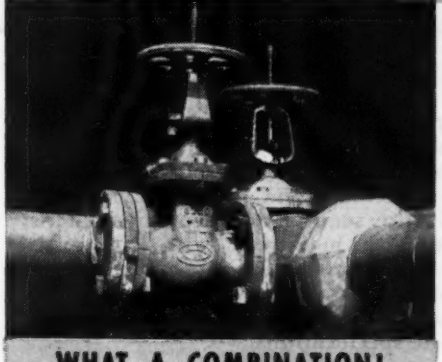
No. 111's non-fouling double disc wedge provides drop-tight closure necessary in acid handling. Free to rotate, shears through sludge. Bolted bonnets allow easy access for quick cleaning.

THREE YEARS WITHOUT REPAIR
17% H_2SO_4—83% HNO_3
This Aloyco Valve has been handling mixed acid for 3 years. Lead safety jacket removed for photo indicates highly corrosive nature of acids.



OTHER VALVES WILTED HERE
98% H_2SO_4 at 180 DEG. F.
Sulphuric that is two ways hot doesn't come too hot for this Aloyco that replaced competitor one and a half years ago.

FUMING OLEUM JUST FUMES
40% OLEUM
Operators say they can tell process is right by the fuming. This 3-inch Gate has been on the job for 2 plus years.



WHAT A COMBINATION!
20 TO 66 BAUME H_2SO_4
Unloading service is where you need dependability and that's what these Aloyco Valves have provided for 2 years.

MODERNIZE your handling of corrosive fluids with Aloyco Valves. Write today for literature listing the wide number of types, sizes and alloys available.

Other alloys available include: 18-8S, 18-8SMo., the higher Chrome-Nickel Series, Worthite, Hastelloy, Monel and Pure Nickel.

ARMY E NAVY

ALOYCO

Stainless Steel VALVES and FITTINGS

GATE VALVES • GLOBE VALVES
Y VALVES • CHECK VALVES
LEVER THROTTLE GATE VALVES
TANK VALVES • SCREWED FITTINGS
FLANGED FITTINGS
GAUGE GLASS FITTINGS

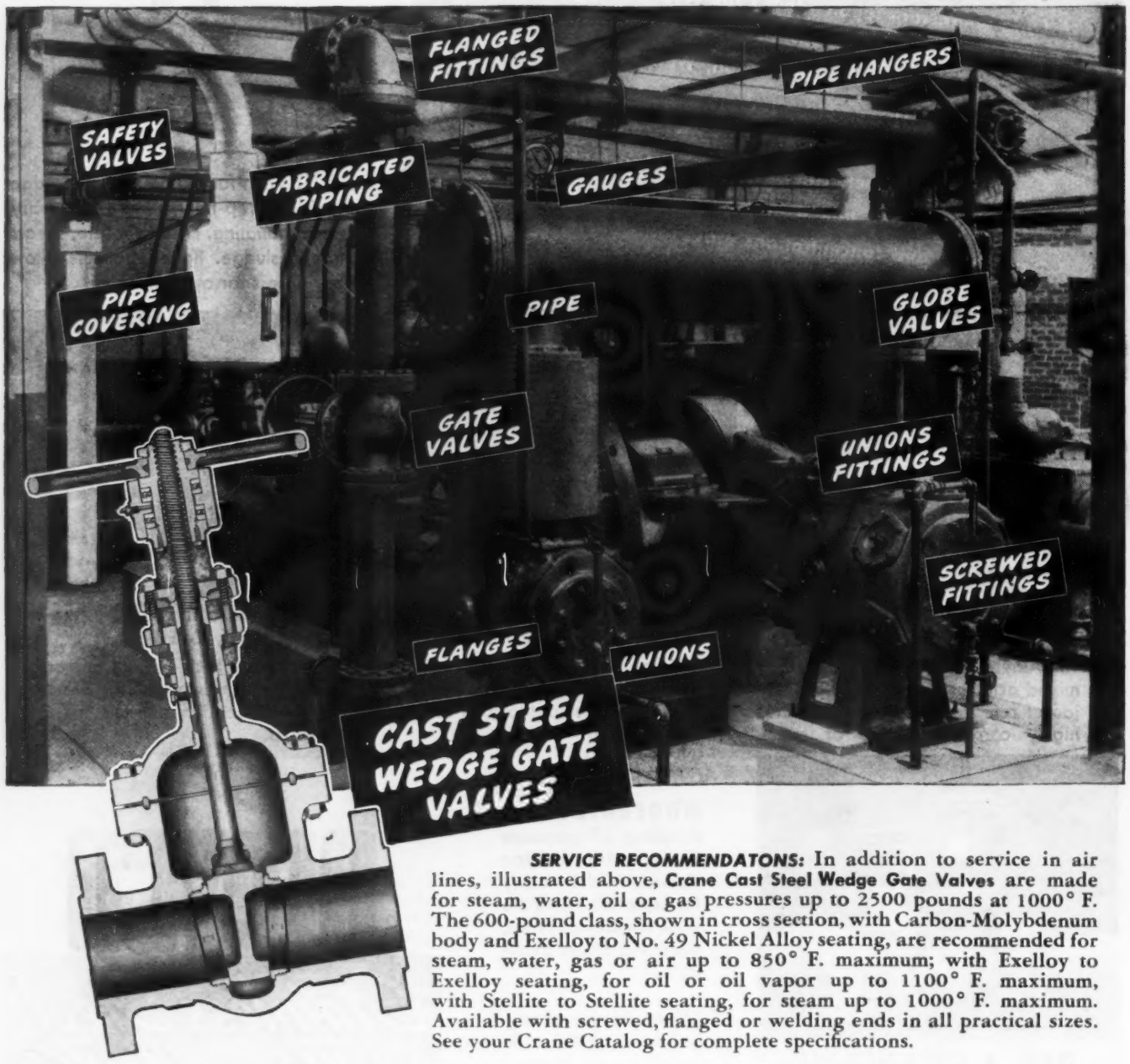
ALLOY STEEL PRODUCTS COMPANY, INC., 130 West Elizabeth Avenue, Linden, N. J.

Wherever You Need Piping Materials ...RELY ON CRANE

ONE SOURCE OF SUPPLY • ONE RESPONSIBILITY • ONE STANDARD OF QUALITY

Supplying everything necessary for any piping system is the job of your Crane Branch or Wholesaler. This single source offers the world's greatest selection of piping materials—in brass, iron and steel. Uniform quality in all materials—backed by single responsibility—helps assure the best installation. By using Crane *complete* piping materials service, you speed deferred replacements—keep piping performance at its best. Below is an example of the completeness of the Crane line—in Cast Steel Wedge Gate Valves.

Steam-Driven Air Compressor



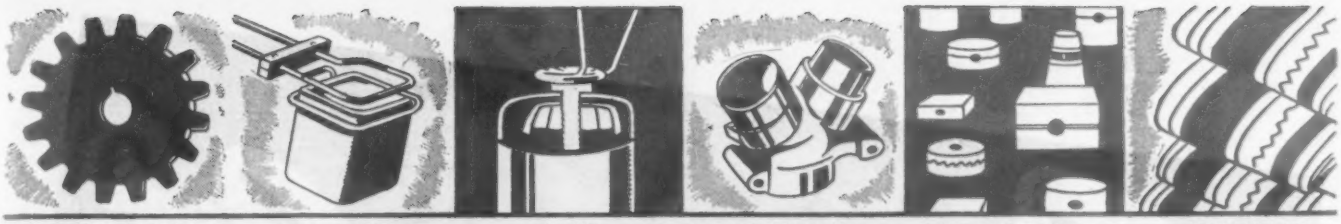
SERVICE RECOMMENDATONS: In addition to service in air lines, illustrated above, **Crane Cast Steel Wedge Gate Valves** are made for steam, water, oil or gas pressures up to 2500 pounds at 1000° F. The 600-pound class, shown in cross section, with Carbon-Molybdenum body and Exelloy to No. 49 Nickel Alloy seating, are recommended for steam, water, gas or air up to 850° F. maximum; with Exelloy to Exelloy seating, for oil or oil vapor up to 1100° F. maximum, with Stellite to Stellite seating, for steam up to 1000° F. maximum. Available with screwed, flanged or welding ends in all practical sizes. See your Crane Catalog for complete specifications.

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. • *Branches and Wholesalers Serving All Industrial Areas*

CRANE

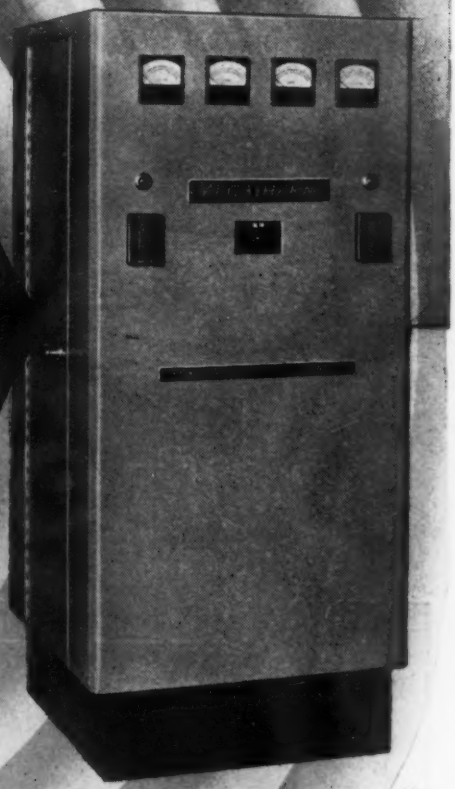
90 YEARS OF PROGRESS 1855-1945

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS



heat

induction or dielectric



WHEN you need it
WHERE you need it
FAST with MEGATHERM*

Ready . . . at the push of a button . . . MEGATHERM's megacycle energy puts heat *where* you want it . . . instantly!

Induction . . . for thin-skin and contour hardening, annealing, brazing and soldering. Ferrous and non-ferrous metals quickly processed!

Dielectric . . . for uniformly heating plastic materials, rubber, food, drugs, wood, textiles and cosmetics . . . rapid defrosting of frozen food!

There's a MEGATHERM to fit your need . . . and a MEGATHERM Electronic Application Engineer to show you how MEGATHERM electronic heat can help you do a better job . . . build a better product.

Write on your company letterhead *today* for details.

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Federal Telephone and Radio Corporation

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FOR A WIDE SPEED RANGE ON A-C OR D-C

Where a broad range of speeds is required, a G-E adjustable-voltage range-drive is recommended. In this type of drive, a d-c generator supplies power to the range motors, the generator being driven at constant speed by an a-c or d-c motor. The operating speed of the entire range is controlled by adjustment of a single rheostat. Minor adjustments of speed or of tension between elements to compensate for changes in the length of the goods in process are made by either gate rheostats or by manually operated vernier rheostats.

This type of range-drive provides for a wide adjustment of speed, 8:1 being in common use, while 20:1 can readily be provided. The master control station contains start, jog, and stop buttons as well as the master rheostat.

. . . when you switch from batch to continuous with a G-E RANGE-DRIVE

If you are using the batch method of finishing, you may find that man-hours are being wasted in excessive handling—production rates are comparatively low—valuable floor space is being lost. Result? Finishing costs may be out of line!

The sure-fire way to bring these costs down *fast* is to put your process on a continuous basis with a G-E range-drive. You'll find that many handling operations are eliminated—that over-all production rates are higher. You'll save man-hours, too, because one operator can control an entire group of machines from *one* central location. The compactness of a unified range enables you to plan production areas more efficiently and to improve working conditions in your plant.

General Electric builds *four* basic types of range-drive. We will give you an impartial recommendation as to the drive which best fits *your* specific requirements. Moreover, you will get a completely co-ordinated range-drive in which *every* component is built—and backed—by *one* reliable manufacturer. Whether you want to install a complete new range-drive, or revamp or extend an existing one, a G-E application engineer will be glad to plan a drive that will help you get *all* the benefits of continuous processing. Just call the G-E office near you. *General Electric Company, Schenectady 5, N. Y.*

PROCESSING SYNTHETICS?
G.E. has methods for maintaining zero-pounds tension. Ask us about them.

FOR A SMALL SPEED RANGE ON D-C

Where the power supply is d-c and only a small speed range (to 4:1) is required, a constant-voltage range-drive may be the best. This drive is characterized by its simplicity. No auxiliary apparatus is needed. You simply use adjustable speed d-c motors. In this G-E drive, any section of the range can be stopped or operated independently. One of the biggest advantages of this type of drive is the ease with which you can make additions to the range.

FOR A SMALL SPEED RANGE ON A-C

If you have a-c, and if a small speed range (2:1 or 3:1) will meet your requirements, brush-shifting Type BTA a-c motors can be used to drive individual range units. In this G-E range-drive also, any unit can be stopped or operated independently. There is no limit to the number of units you can have in the range, and it is not necessary to revise the original range when making additions.

IF YOU USE PROCESSING STEAM

Then you should seriously consider the G-E turbine-electric range-drive. Here a steam turbine drives an a-c generator and the lead unit in the range. This generator furnishes variable-voltage, variable-frequency power for squirrel-cage motors which drive the follower units. In space requirements, appearance, cleanliness, and ease of operation, this G-E turbine-electric drive is comparable to a motor unit. A wide range of speeds is available, and regulation at all speeds is extremely close. Low-pressure steam from the turbine can be used for processing.

Buy all the BONDS you can—
and keep all you buy

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DRIVE SYSTEMS FOR TEXTILE MILLS

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For a great many years, small freight elevators made up the greatest part of Otis business. Today, they still constitute a large percentage of Otis sales.

Small or large, for two stories or twenty, with Otis freight elevators you are assured of dependable and economical performance.

Your Otis representative is ready now to consider your requirements and to recommend the elevator equipment best suited to your needs. For the finest in vertical transportation tomorrow, call your Otis representative TODAY.

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

DRAX*ed garments stand

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DOUBLE EXPOSURE!

**The new water-repellent that means a profit plus for you!*

You see, DRAX, made by the makers of Johnson's Wax, actually gives invisible protection with wax. DRAX-treated fabrics are not only *water-repellent,* but they *resist dirt and soil,* too! They withstand handling . . . stay clean and fresh-looking longer . . . are *easier* to clean!

We predict that DRAX will very soon become the best known name in water repellents because it is being forcefully promoted to America's millions. Johnson national advertisements, appearing in The New Yorker, New York Times Magazine, The Saturday Evening Post, Collier's, Good Housekeeping and many other top publications, are carrying announcements about Johnson's DRAX. And of utmost importance to you and every manufacturer is the renewable feature of DRAX. The DRAX treatment may be easily and inexpensively maintained now at laundries and dry cleaners.

DRAX tags will identify DRAX-treated garments to shoppers, and these tags will be a recognized symbol of plus value in garments on which they appear. Be ready for the demand. Find out about DRAX today!

S. C. JOHNSON & SON, Inc., Fabric Finishes Division, Racine, Wis. Starrett Lehigh Building, 601 W. 26th Street, New York 1. Or any of our other 18 district offices.

Tune in the Victor Borge show, Tuesday night, NBC

Mail Coupon for Free Sample

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I'd like to try DRAX. Please send me a free sample, plus literature and instructions.

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Firm Name _____

Address _____

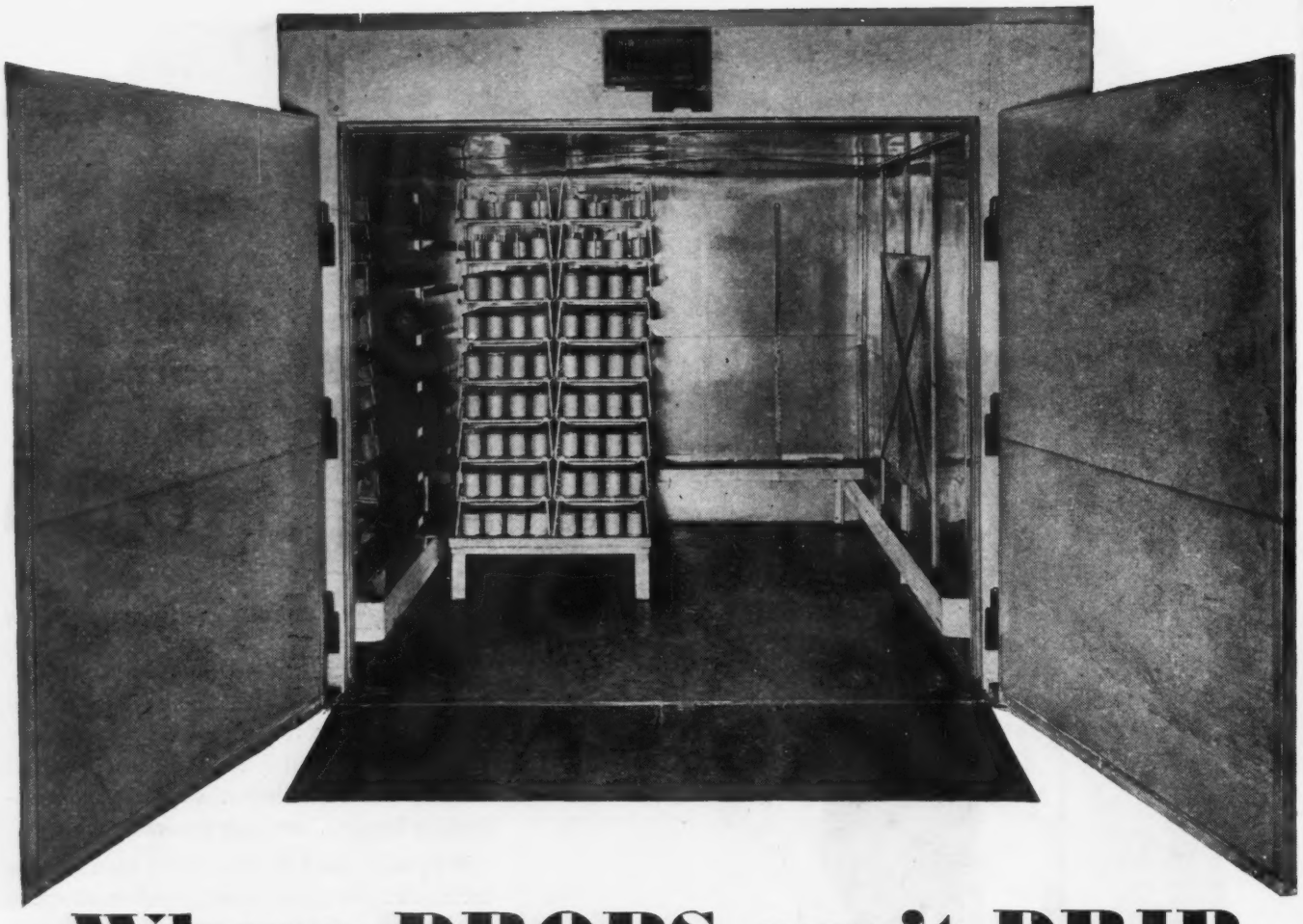
City _____ *State* _____

***DRAX** is made by the makers of*

JOHNSON'S WAX (A name everyone knows)

You serve when you save — buy another War Bond!

Good Housekeeping Bureau



Where DROPS can't DRIP

Condensate is a trouble-maker . . . when it falls from the ceiling of a yarn conditioner.

But drops can do no harm on the *walls.*

In the "H-W" conditioner pictured above, the ceiling is constantly maintained at a higher temperature than the other inside surfaces. Any condensation that may occur, forms on the walls.

A product of *The Industrial Dryer Corporation,* Stamford, Conn., the "H-W" conditioner is widely used in the silk, rayon, woolen and worsted industries. While most twist-setting conditioners provide automatic control of temperature and humidity, this one does even more: it controls *time of operation* as well.

Throwsters operating this equipment have no worries about rust or corrosion, either. With rustproof Monel lining on walls and ceiling, and with a solid plate of tough Lukens nickel-clad steel for the floor, there's dependable protection against corrosive conditions and humid atmospheres.

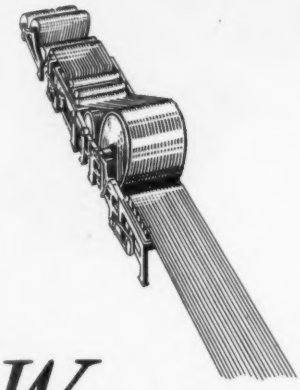
Monel* has served the textile industry for more than a quarter of a century. It is preferred metal for all types of dyeing equipment handling direct and vat colors. It is readily fabricated, and retains its essential characteristics throughout its service life, whether in contact with salt, acids, alkalies or dye liquors.

For detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data, we invite you to send for Technical Bulletin T-5, *Engineering Properties of Monel.* Your copy is ready for mailing. A request on your business letterhead brings it to your desk. The International Nickel Company, Inc., 67 Wall Street, New York 5, N. Y.

*Reg. U. S. Pat. Off.

Monel

ONE OF THE INCO NICKEL ALLOYS



Weavers of China . .

● Marco Polo's memoirs—dictated while in prison—give us the first account of the cultivation and weaving of cotton in China. His noting the use of colored threads in Chinese fabrics shows that in weaving, as in other phases of their ancient civilization, they had far surpassed their European contemporaries.

Today—mill operators realize the importance of proper starch selection for their particular types of warps. They prefer Staley Starches because the strict uniformity of each and every shipment permits their sizing formulas to remain constant. Staley's complete line of thick and thin boiling starches—for every textile mill use—has been developed by skilled chemists. Staley Starches are under rigid laboratory control during every step of processing. Staley's prompt service and complete cooperation—proved in more than a quarter of a century of serving the nation's textile mills—can help you. Staley's can recommend the correct starch for all of your sizing requirements.

Number Four in a series published as a Tribute to the Development of Weaving through the centuries.

In the 10th Century Marco Polo, the celebrated Italian adventurer, brought back to Venice lovely fabrics of cotton grown and woven in China.

Staley's CORN AND SOY BEAN PRODUCTS

STALEY STARCHES

A. E. STALEY MANUFACTURING COMPANY

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With Victory ~ planes and ships returning home—every American industry that has had a part in war production will have the deep satisfaction of having done a stupendous job well. We, who have turned our facilities into the making of essential war matériel, have learned lessons—have gained new and valuable ideas that will enable us to give greater services in the designing and building advanced finishing machinery for the textile industry.

B. F. PERKINS & SON, Inc.
ENGINEERS AND MANUFACTURERS
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Form J — General Purpose Application

The Top Half Closed on Century Form J Motors Gives EXTRA PROTECTION

Against Falling Solids and Dripping Liquids

The Century Form J motor is a general purpose, open rated, continuous duty motor with an extra protective safety factor. The upper half of motor frame is completely closed, reducing the possibility of dripping liquids and falling solids entering the vital parts of the motor.

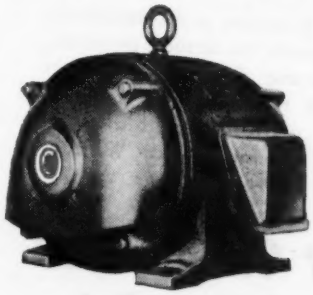
Adequate ventilation to compensate for the partial inclosure is provided by two fans to force a blast of cooling air around the bearings and ventilating passages surrounding the windings.

A Century Totally Enclosed Fan Cooled motor is available for installations requiring protection from atmospheres charged with abnormal quantities of metallic or abrasive dusts or powders, or abnormal amounts of acids, or alkali fumes.

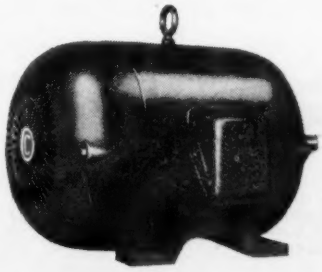
For complete information on how Century motors are being used in the textile industry — and how they can bring benefits to you, call in a Century engineer, today.

3 Other Types of Protection

Century Explosion Proof Motor



Splash Proof Protection



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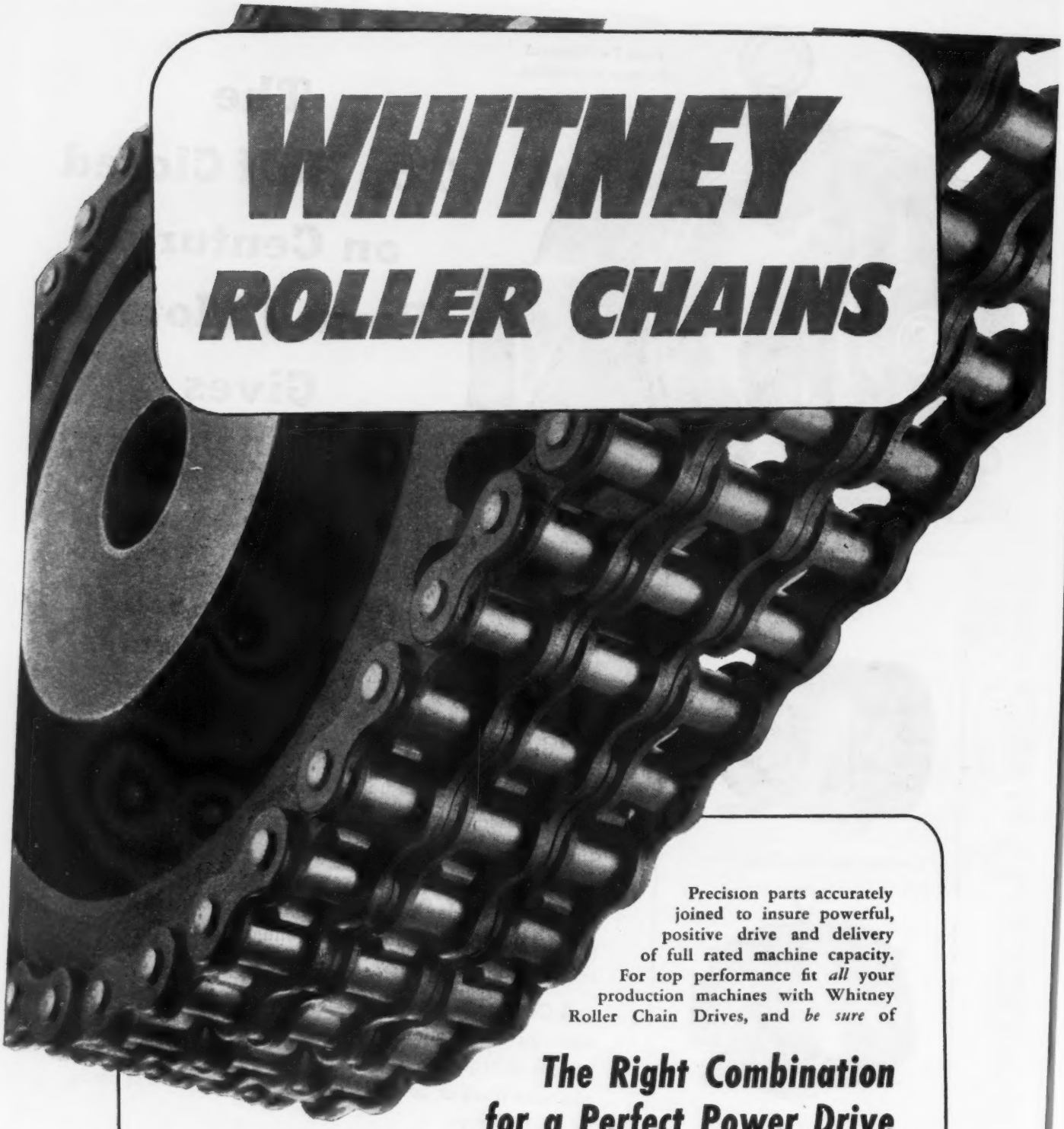
WHITNEY
ROLLER CHAINS



Precision parts accurately joined to insure powerful, positive drive and delivery of full rated machine capacity. For top performance fit *all* your production machines with Whitney Roller Chain Drives, and *be sure* of

The Right Combination for a Perfect Power Drive

Plates, punched from alloy stock, are heat-treated for maximum strength and toughness.

Pins have high shear value and resistance to wear. They are case hardened and centerless ground.

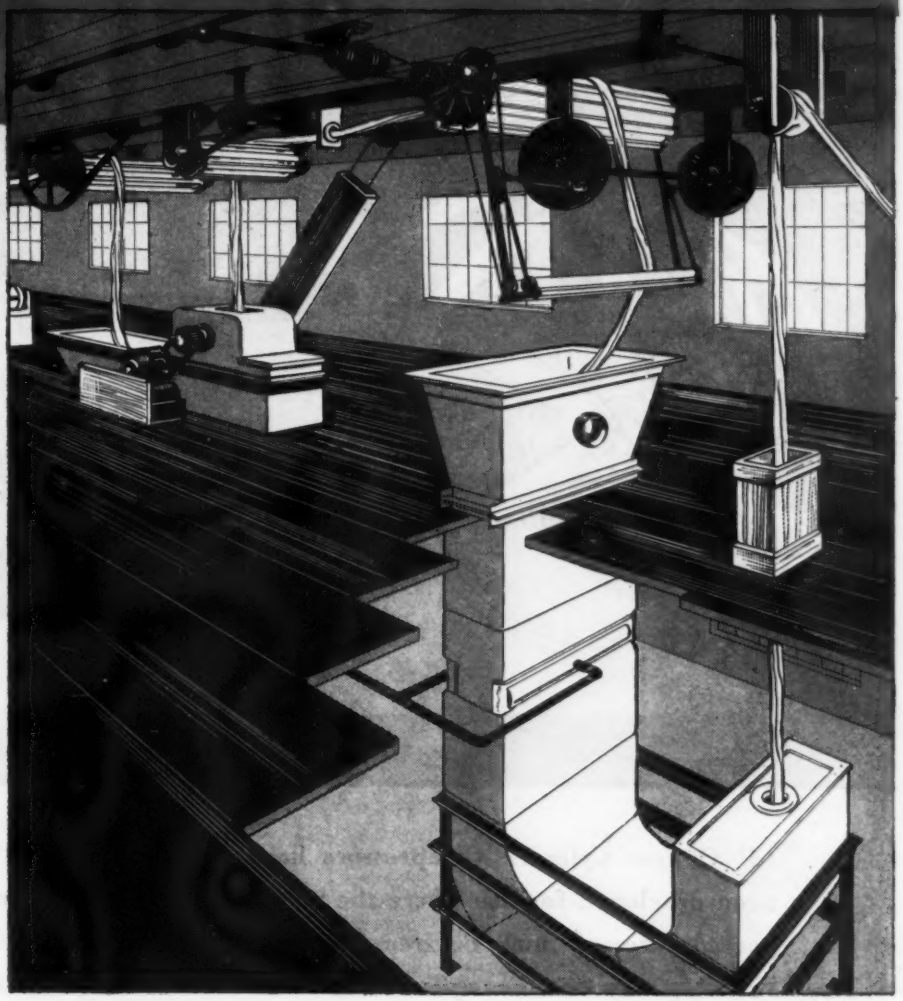
Bushings are die drawn from selected alloy steels, properly case hardened; held to close limits.

Rolls, turned from solid alloy bars, are heat-treated for toughness.

THE WHITNEY CHAIN & MANUFACTURING COMPANY, HARTFORD 2, CONN.

What BECCO professional services did in this mill...

...can ALSO be done in Yours



Working under existing conditions, formulas were revised which effected immediate savings in time and a reduction in bleaching costs. At the same time plans were formulated to simplify the operating procedure. Later on when this company was ready to undertake the major changes proposed by Becco Engineers, necessary to simplify production, a straight-line production system was set up. This enabled them to be one of the first mills in the country to take full advantage of the newest development —steam bleaching. And now, their bleaching costs have been reduced very substantially.

Such results, following Becco professional engineering and chemical services, can also be effected in your bleaching operations. Becco engineers and chemists have had many years of specialized bleaching and processing experience. Why not have one of them make a survey of your plant and have him advise as to the most efficient and economical method of bleaching, regardless of the amount of poundage you bleach. Write *today* to:

"Nothing Moves but the Cloth"

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CP Oil-less Cylinder Compressors are arranged for belt, motor or steam drive, in single stage and two-stage types. They are available in a wide range of sizes and ratings. Write for complete information.

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Specialists in Stainless, Eastern craftsmen are experts in the intricate art of producing Stainless Steel sheets of uniformly high quality and finish. You can specify Eastern Stainless with utmost confidence. And when you are in need of technical advice concerning Stainless, don't hesitate . . . Ask Eastern for the answer.

At Eastern Stainless, a competent staff of chemical, metallurgical and engineering experts are prepared to serve you promptly. There is certain to be an Eastern Stainless sheet ideally suited to your purpose . . . for Eastern offers twelve standard and several special grades in a variety of sizes and finishes. Today, investigate the many advantages of Eastern Stainless Steels in your business.

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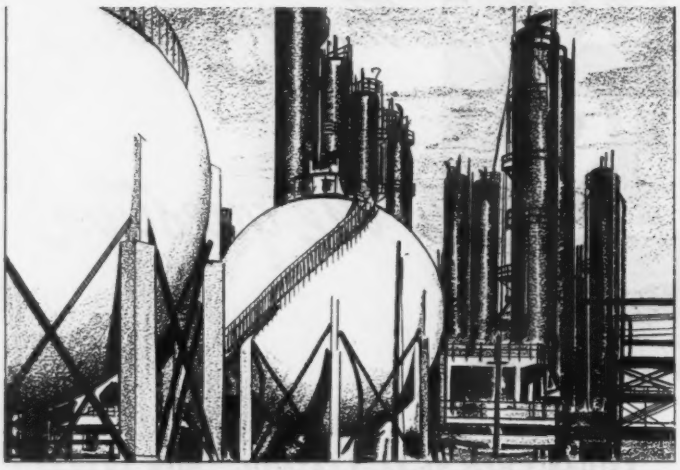
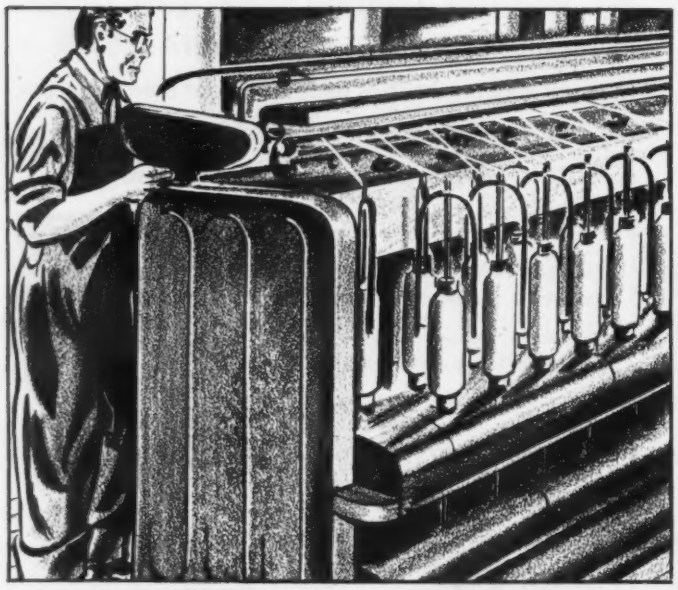
A TANK CAR TRAIN STRETCHING FROM WASHINGTON TO QUEBEC WOULD BE REQUIRED TO CONTAIN A SINGLE YEAR'S PRODUCTION OF CRUDE OIL FROM SINCLAIR'S 8000 WELLS.



SINCLAIR RUBBER INC., A SINCLAIR SUBSIDIARY, MANUFACTURED IN ONE YEAR SUFFICIENT BASIC MATERIAL TO PRODUCE 78,000 TONS OF SYNTHETIC RUBBER. THIS PLANT AT HOUSTON, TEX., IS SINCLAIR OPERATED FOR THE GOVERNMENT.



FOR COOL, NO-DRAG, HIGH SPEED SPINDLE OPERATION SINCLAIR PROVIDES LILY WHITE OILS . . . AND FOR ALL MILL REQUIREMENTS, HIGHLY SPECIALIZED LUBRICANTS TO PROMOTE BETTER MACHINE PERFORMANCE, SAVE WEAR AND REDUCE LUBRICANT INVENTORIES.

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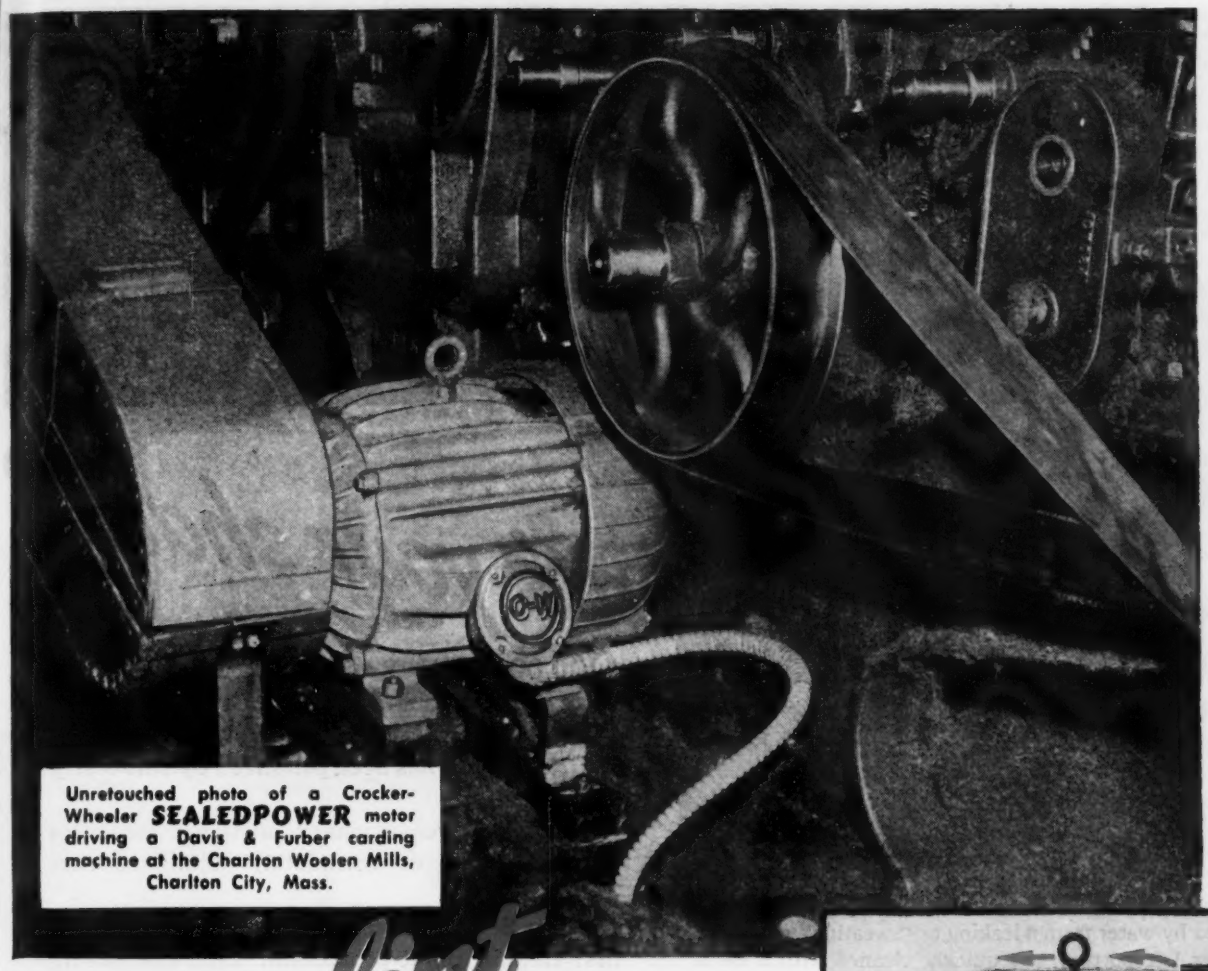
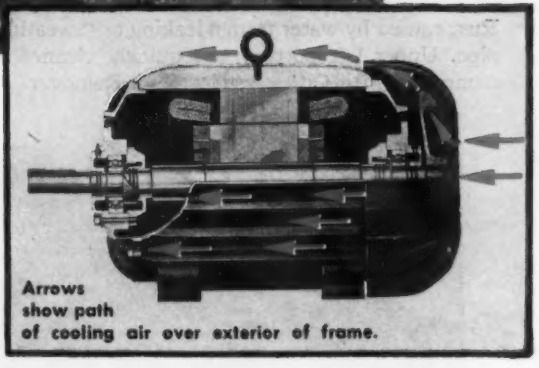


Unretouched photo of a Crocker-Wheeler **SEALEDPOWER** motor driving a Davis & Furber carding machine at the Charlton Woolen Mills, Charlton City, Mass.

Mere lint WON'T STOP THIS MOTOR



Arrows show path of cooling air over exterior of frame.

Lint drawn into the fan guard is blown *over* the frame with the cooling air (see cutaway view of motor). None can find its way into the tightly sealed interior of the motor—to the rotor and stator windings where damage could be caused. And what's more, unlike conventional fan-cooled types, a **SEALEDPOWER** has no easily-clogged, hard-to-clean air passages in which lint can hide away and sabotage the flow of vital cooling air.

This motor also provides the same kind of protection against steam and air borne moisture. That is why it is becoming increasingly popular for the tough "wet" applications — such as dye kettles, for example — in textile plants.

Why not ask your local Crocker-Wheeler representative for more information about this unique motor? He will tell you about its dynamically balanced, practically indestructible Alucast *rotor; its patented bearing seals and vacuum impregnated windings. Or if you prefer, we shall be glad to send you a description by mail. Write today.*

CW-2

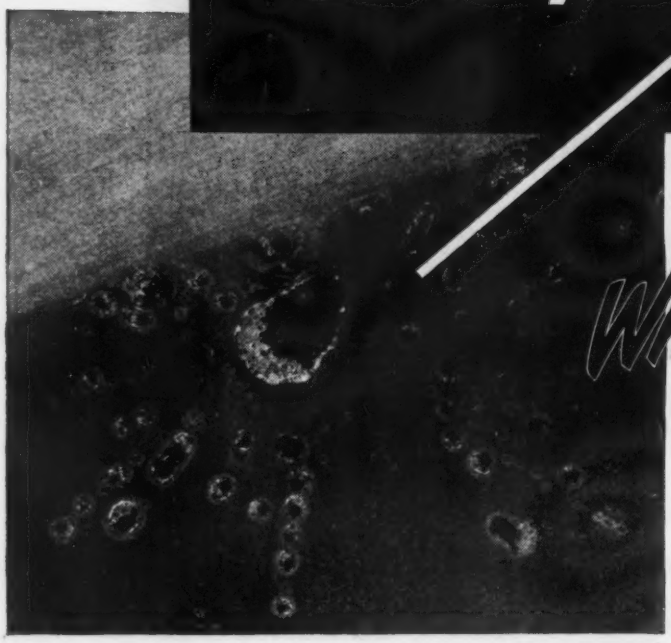
CROCKER-WHEELER

A DIVISION OF JOSHUA HENDY IRON WORKS, AMPERE, NEW JERSEY

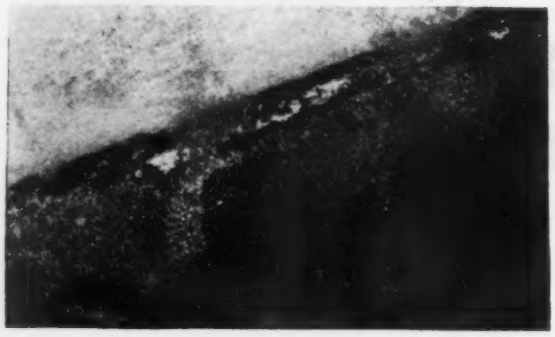
Branch Offices: BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DETROIT • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO • WASHINGTON

SQUIRREL CAGE MOTORS WOUND ROTOR MOTORS DIRECT CURRENT MOTORS GENERATORS FLEXIBLE COUPLINGS

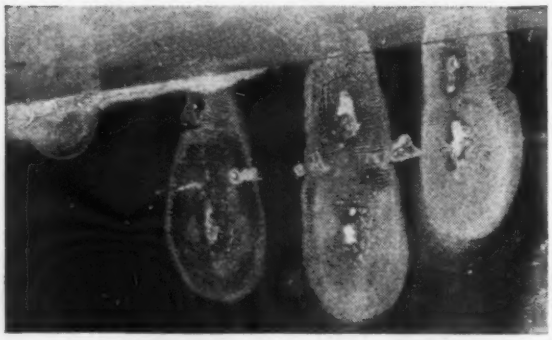
Source of $100,000,000 Damage



Rust caused by water from a leaking or "sweating" overhead pipe. Upper left portion was quickly cleaned with a cloth dampened with Cities Service Rust Remover.



Result of storage of raw steel stock subject to a humid atmosphere. Note that rusting has developed in a uniform layer. Upper half of plate was cleaned in 50 seconds with Cities Service Rust Remover.



Action of rust on sheet steel caused by finger marks in handling. Upper section has been cleaned with soft cloth dampened with Cities Service Rust Remover.

What's your share?

$100,000,000—that's just a conservative estimate of the annual losses caused by **RUST.**

Look at your records...see how much money *your* company has been penalized by this costly waste.

Adequate precautionary anti-rust measures *can* minimize or completely eliminate rust destruction.

Cities Service Rust Remover is an unexcelled first-step in plant-protection. This fast-acting liquid dissolves rust from iron or steel and removes tarnish from aluminum, brass, copper and other non-ferrous metals. Simple to apply, easy to remove.

After cleaning, let your Cities Service engineer show you how to protect and preserve the cleaned metal surfaces with a special coating of Anti-Corrode.

Cities Service will be glad to study your plant operations and recommend a complete rust-prevention program without obligation on your part. You may avoid considerable trouble and expense. Call in a Cities Service expert today.

Mail this Coupon *Today*

CITIES SERVICE OILS
ONCE-ALWAYS

Cities Service Oil Company
Room 356, 70 Pine Street,
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Gentlemen: Please send me further information on your Rust Prevention Program.

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TEXTILE MACHINE WORKS • READING, PA.

THE WAR DECORATIONS OF TEXTILE MACHINE WORKS

Bur. of Ord. Flag and Navy "E"
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Three Star Army-Navy "E"
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"Patience is bitter, but its fruit is sweet."
ROUSSEAU

After Victory . . . When material and manpower are again available we will begin production on the new high-precision READING Machines, designed to develop a new-high standard of quality and quantity production in the knitting of Full-Fashioned Stockings . . . Until such time as we can deliver these new machines to you, we will do our utmost to help you keep your present equipment at highest efficiency.

TEXTILE MACHINE WORKS • READING, PA.

Another application that suggests interesting and important uses in all fields

THAT lovely lady probably doesn't give a hoot what the handbag is made from. But she's surely interested in the fact that it's easy to keep clean because it's waterproof and washable. She likes it because it resists scuffing and wear despite its softness. And she knows that it won't fade or turn yellow even after continued handling.

These are just a few of the properties that may be imparted to a finished product through the use of GEON polyvinyl raw materials. And they suggest many interesting and important applications.

For example, you can make scuffproof, good-looking, practically indestructible luggage and brief cases; upholstery material that can be left outdoors because it resists the aging effects of weather; water and mildewproof fabric coatings for rainwear, shower curtains, tents; soles and heels that will outwear leather many times; film, sheet or coatings of GEON for packages that will resist wear, aging, chemicals, foods, tobacco, oils and greases, moisture, heat and cold. All products made from GEON may be brilliantly or delicately colored.

There are applications for GEON in every industry in America. For more complete information write Department HH-4, B. F. Goodrich Chemical Company, Rose Building, East 9th and Prospect, Cleveland 15, Ohio.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company A DIVISION OF THE B. F. GOODRICH COMPANY

What makes a Loom Motor FEVERISH ?

A loom, you know, is like no other machine. For it combines motions in many directions . . . rotating and oscillating, continuous and intermittent. And in its unique characteristics are operational mysteries which are slowly but surely being brought to light.

Take loom motors, for instance. A mill man says: "These motors are running hot!" But when C&K engineers investigate that statement by measuring power, the wattmeter tells nothing. As far as you can see by this instrument, the motor apparently isn't overloaded.

But the patient is running a temperature, just the same!

So C&K engineers proceed to an analysis by a recording oscillograph . . . which shows that, in one revolution of the crankshaft, the motor runs both as a motor *and as a generator.* These violent fluctuations burden the motor with instantaneous peak loads far exceeding the average power required to drive the loom. And though these fluctuations don't show up as power consumed, still they raise motor temperature to a "feverish" degree.

What's more, these power fluctuations also impose *on clutches* far more severe burdens than you would ever expect to find in a loom. And these are the reasons why C&K is applying the newest scientific instruments and techniques of study to develop better loom motors and clutches. Next month, in these pages, one of these studies will be outlined, so that you may see *still another field* in which C&K is working to bring you—by steady, tested development—looms that will weave finer fabrics with greater economy.

Crompton & Knowles Loom Works

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For further information, consult the A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for the Tennessee Eastman Corporation, subsidiary of the Eastman Kodak Company.

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May 28, 1945

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Yours very truly,
WHITTENTON MFG. CO., Inc.
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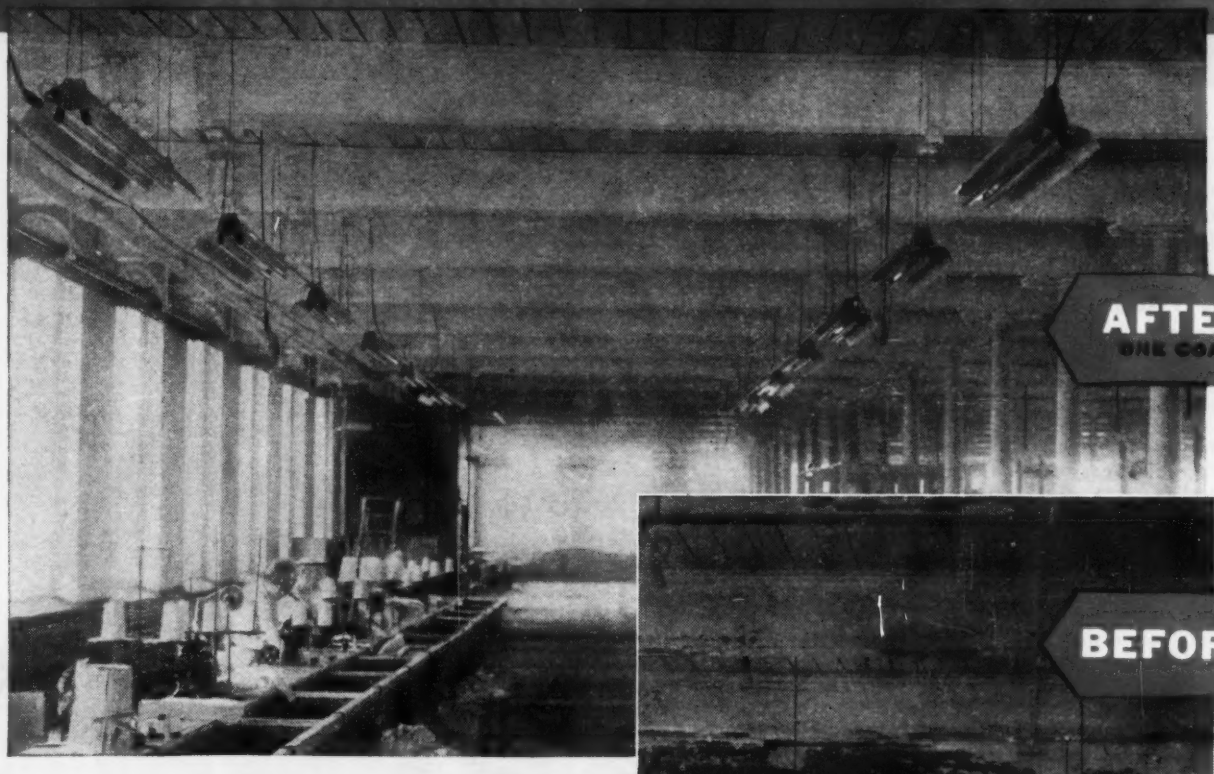

Textile Mills everywhere find Glidden maintenance paint tops them all

Whittenton Manufacturing Co. is only one of *many* textile firms throughout the land which have standardized on SPRAY-DAY-LITE after witnessing the superior performance of this great Glidden maintenance paint. Here are some of the advantages they are getting which *you* should consider before your next painting job . . .

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3. **Its intense white does not yellow with age—also available in 10 beautiful colors.**
4. **Durable, egg-shell finish eliminates eye-straining glare—washes like tile.**
5. **Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.**

Send for new color chart visualizing wide range of pleasing color combinations. We will also send a Glidden engineer to demonstrate SPRAY-DAY-LITE in your own plant. For one or both, just write:

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The scientific selection of color for machines, equipment, work-rooms and offices can help ease eyestrain, lessen fatigue, reduce accidents and boost production. E-Z-C Color-Planned Interiors are the result of many years of intensive research in the science of color. Send for free booklet, "Sight Perfection," that shows how to use color strategically in industry.

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A V-BELT that requires constant, time-wasting maintenance is a production handicap. You need NOT put up with it . . . when you can replace with Veelos—the adjustable V-belt. Then—you can *forget* these power transmission worries:

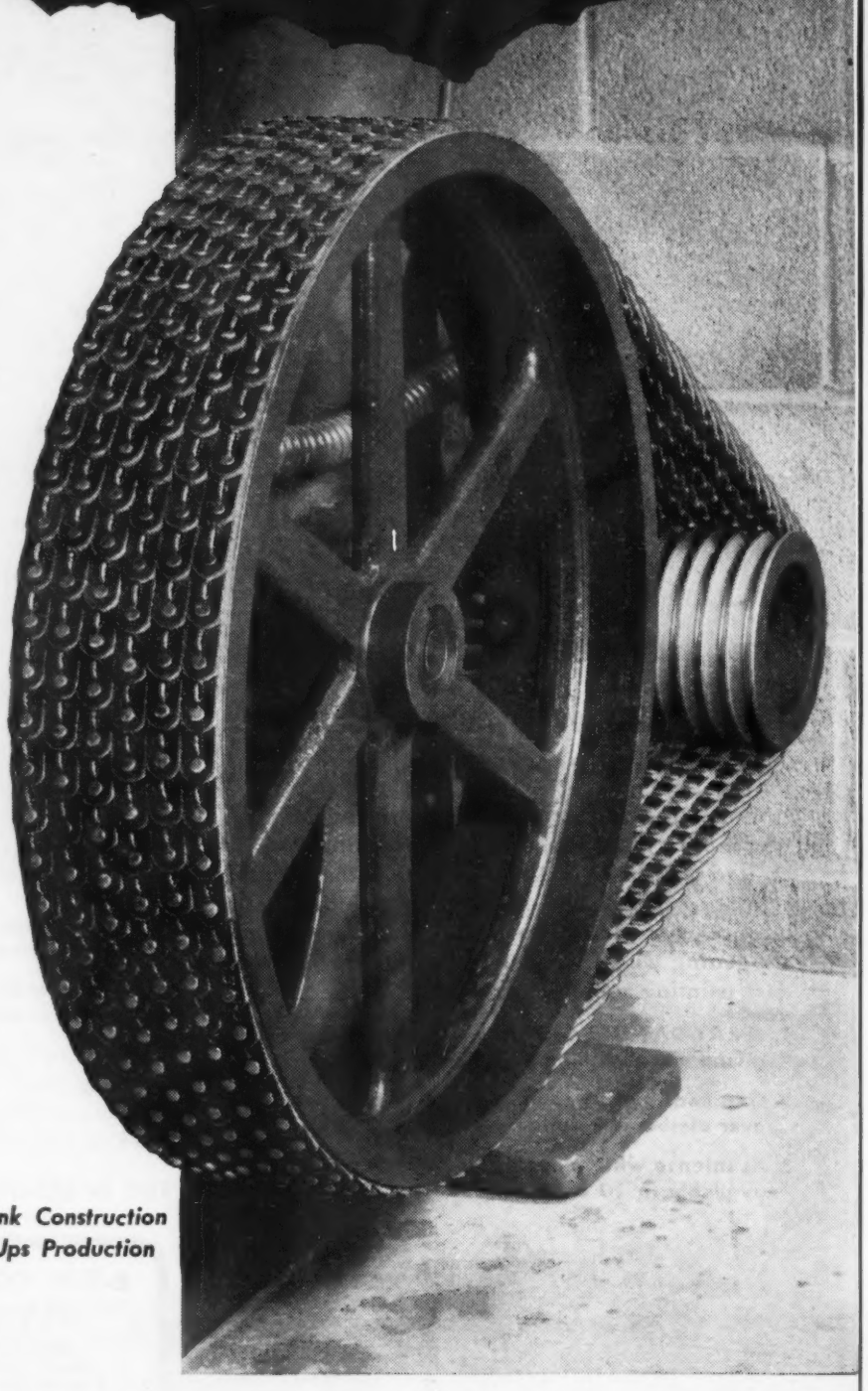
1. Lengthy Machine Shutdowns to Permit Belt Replacement: With Veelos in rolls, V-belts can be replaced in a few minutes . . . maintaining machine production . . . reducing machine downtime.

2. Belt Slippage: Veelos link construction provides quick, easy tension adjustment to end slippage . . . keeps machinery running at full speed and productivity.

3. Uneven Delivery of Power on Multiple Drives: Easy adjustment of Veelos assures that each strand of a multiple belt will carry its exact share of the load. All strands constantly work together, *delivering full power.*

4. Bulky, Expensive Belt Inventories: Veelos lowers investment in V-belt stock and space . . . rolls of common sizes provide belts of any desired length . . . simplify stock records.

There's a book waiting for you that's a guide to easier belt maintenance and installation. It's the *free 8-page illustrated manual* giving Veelos applications, construction detail, installation directions and engineering data. *Write for your copy today.*



Simple as Buttoning a Shirt

Get the "hang" of it, and you'll couple and uncouple Veelos as easily as you button your shirt. This unique, link construction is the big reason why production goes up when Veelos goes on.

Link Construction Ups Production

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THE LINK
V-BELT

Adjustable to any Length
Adaptable to any Drive

MANHEIM MANUFACTURING & BELTING CO.
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They can carry more yarn

because they're stronger

American Magnesium Edge Roll Bobbins

Unlike bobbins of conventional materials, these magnesium bobbins can be filled full. Their higher strength enables them to resist the high pressure exerted by modern yarns. Time and labor are saved all along the line.

These higher strengths are obtained without having to increase weights or sacrifice resilience, thanks to magnesium's high strength-weight ratio. And the absence of splintering, splitting, cracking or distortion is another reason for being glad you changed to magnesium bobbins.

Are you interested in learning more about bobbins, warp beams or other equipment made of strong, lightweight magnesium?

Write Aluminum Company of America, Sales Agent for American Magnesium products, 1705 Gulf Building, Pittsburgh 19, Pennsylvania.

MAGNESIUM MAZLO PRODUCTS

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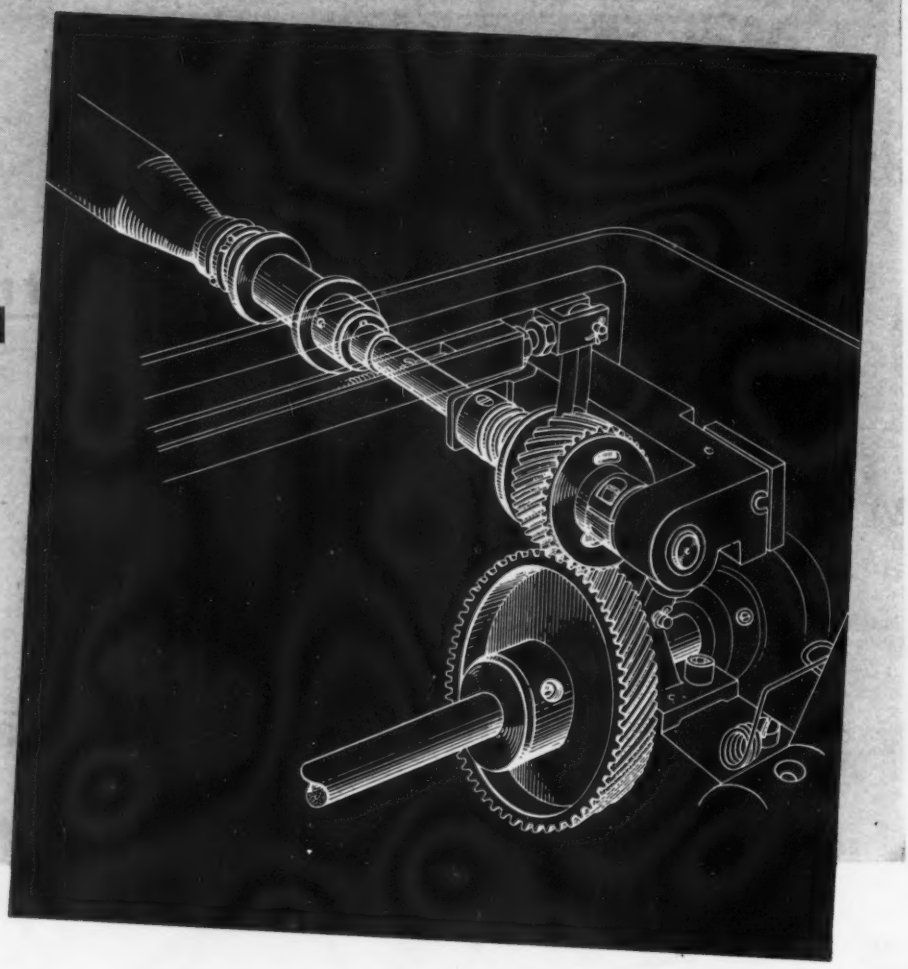

because the drive is positive, through gears

In making plans for an after-the-war changeover to automatic bobbin winding, it is important to realize that the potential of increased production inherent in the automatic winding machine can only be reached if the winding spindle is up to speed at all times. For this reason the method of furnishing power to the winding spindle is an important factor in the selection of an automatic machine.

On the Universal Automatic (No. 99), each spindle is gear-driven from a rotating shaft, so there is no slip... no loss in speed between shaft and spindle.

Thus, the actual winding speed and spindle production are maximum at all times.

LOOK FOR ALL 3 IN CONSIDERING AN AUTOMATIC MACHINE

In addition to positive drive, there are two other important factors to look for in an automatic bobbin winding machine. These are:

Electrical Controls. On the Universal Automatic, the use of electrial as well as mechanical controls simplifies design, eliminates fast-wearing mechanical parts, and reduces the chance of breakdown.

A Proven Bobbin Building Method. On the Universal Automatic, the same method that proved successful on the No. 90 is used. The Universal Traverse Wheel produces bobbins that are round, parallel-sided, and free from ridges that cause plucks.

These three important features are responsible for the three advantages which present users find in the Universal Automatic — maximum production, lowest maintenance, quality winding.

Other Important Universal Features. "Layer-lock" wind, reducing tendency to "shell off" in the shuttle. Centralizing bobbin driver. Automatic release of tension at start of winding. Magazine creeling. 9½" maximum traverse, 1½" maximum diameter.

The UNIVERSAL AUTOMATIC has proved successful over a period of years winding rayon yarns for the loom. Orders for AFTER-THE-WAR delivery are now being accepted for winding all fibres. Universal Winding Company, Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta.

UNIVERSAL AUTOMATIC

High Speed Bobbin Winding Machine

... Putting Electricity to Work to Improve Your Bobbin Winding

STEADY JOBS *and* EQUIPMENT BUYING

SUSTAINED employment is not an attainable goal unless we can moderate the erratic fluctuations which have characterized the markets for producers' equipment in past periods.

In the 35th editorial of this series, "Sustained Construction Activity", it was pointed out that there is no specific that can cure our economy of its "boom-or-bust" proclivities. Rejecting the notion that the construction industry could be so managed as to stabilize business as a whole, that editorial stressed the important contribution it could make to that end, and suggested several practical expedients through which construction activity might be regularized.

Producers' equipment represents an area of production quite as broad and diverse as construction, though smaller in aggregate value. The classification embraces all types of durable equipment bought and used for profit—locomotives, motor trucks, electric generators, conveyors, machine tools, farm implements, and so on down to surgical instruments and dentists' drills.

Although the output of such equipment averages over a long period only 5 or 6 per cent of the nation's total output, it resembles construction in its extraordinary ups and downs. While its component items differ widely in the amplitude and violence of their fluctuations, the class as a whole is one of the most unstable sectors of the economy, making therefore a quite disproportionate contribution to the cyclical swings of total production and employment. From 1929 to 1932, for example, the decline in the output of producers' equipment (at constant prices) was 65-70 per cent, in contrast to a decline of 25-30 per cent in the national output exclusive of such equipment and construction.

A more recent example of the volatility of demand in this field may be found in the movement of a monthly index of orders for industrial equipment, which rose from 92 in the spring of 1936 to 160 in the spring of 1937, falling thence to 65 in the summer of 1938 and rising again to 142 in the fall of 1939. Such fantastic oscillations present an obvious and inescapable challenge to all concerned with economic stabilization.

Not only are these fluctuations bad for the economy; they represent demonstrably bad buying policy on the part of the purchasers of equipment. Peaks in demand come characteristically just before a business depression (1919, 1929, and 1937, for example) when machinery costs the most to buy and install and when it has the lowest expectancy of continuous use. At exactly the wrong moment everyone wants to buy. In the depression itself, on the other hand, with costs down, and with nowhere for the economy to go but up, equipment is a drug on the market. No one wants it when it is cheap and has the greatest prospect for steady employment. Here is a behavior pattern so profoundly irrational there must be hope for its correction.

There is an inveterate tendency for business management to forecast the future simply by projecting the trends of immediate past. Although it is axiomatic that the chance for an extended period of further prosperity is inversely related to the duration of the prosperity already experienced, this truism is generally ignored. The longer the boom has run, the more certain is business management that it will continue indefinitely. Convinced at last by "actual experience" that prosperity is here to stay, executives give the green light to commitments for expansion and modernization previously deferred in a skeptical attitude of "wait and see". The result, so often repeated in our economic history, is an explosive burst of demand for equipment coincident with, and contributing to, the final spasm of a boom. Witness the phenomenal rise in industrial equipment orders during 1928 and the spring of 1929.

The same prophetic illusion works in reverse during a depression. Recent experience is projected into the future. Although the mathematical probability of an imminent and prolonged period of prosperity increases directly with the duration of a depression, it finds little reflection in business decisions. Timidity and caution are the order of the day.

Compounding the errors caused by faulty perspective, are a number of influences which make it extremely difficult for individual enterprises to follow a policy geared to sensible long-term considerations. In a boom, particularly in its climactic phase, most producers find their order books crowded beyond the potential of their current capacities and are faced with the alternatives of expanding or losing trade to competitors. In depression the situation is reversed, and producers with unused facilities find it difficult to justify increases in their capital charges.

An even more controlling factor in many cases is the availability of funds. This is especially important

for small concerns. Typically such firms enjoy but limited credit, and with no ready access to the securities markets, their capital expenditures depend primarily on earnings. When they are making money, they can afford to buy equipment; when they are losing, they largely disappear from the equipment market. Even great enterprises, though less dependent on earnings as a source of capital financing, are profoundly influenced by the volume of internal funds available for the purpose, a volume as a rule far greater in prosperity than in depression. Moreover, it is usually easier in good times to obtain outside funds through the sale of stock or by borrowing, since in bad times bankers, underwriters, and investors are susceptible to the same timidity and caution that afflict business management generally.

We are dealing here with a combination of psychological, physical, and financial forces which conspire to aggravate the instability of demand for capital equipment. What can be done to reduce this instability and thus to bring equipment purchasing into a more sensible and constructive pattern?

There is no panacea, no royal road to the solution. The problem has been with us since the beginning of the industrial economy. It is complex and difficult. It is not, however, wholly intractable. We may reasonably hope that industry will, through intelligent effort, make substantial progress toward a satisfactory solution. The industrial equipment field is one in which government, except for war periods, has exerted little direct control. The best insurance against the institution of government measures is to so conduct activities in the equipment field that no justification for government interposition can be made.

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1. The first and most important step is for industry itself to reconsider its heretofore haphazard and opportunistic policy in the purchase of equipment, substituting so far as possible a regularized, long-range programming of expenditure that will resist both the excited long-buying of booms and the equally disturbing underbuying of depressions. Such long-range programming is particularly appropriate and advantageous for large enterprises in established industries such as railroads, electric power, steel, automobiles, and the like, but it makes sense much more generally.

Once executives come to realize that a reasonably stable equipment program contributes not only to the welfare of the economy but also to the lowering of their long-run equipment costs, the opportunity to combine a public service with private advantage should induce them to recast their policies accordingly.

There is an even more compelling reason for purchasers of industrial equipment to do everything possible to regularize their demands. Some concerns unquestionably will find themselves in a postwar position where speedy delivery of needed equipment, even though it involves the payment of premium prices, will seem to be justified. But there is no system of accounting that can show it to be a profitable transaction to promote an equipment industry boom that runs a brief course only to collapse when the backlog of deferred maintenance and development has been satisfied. That, historically, has been the trigger which trips the door to the depression phase of the business cycle. No immediate advantage can compensate for the contagious paralysis that infects all business enterprise when major layoffs occur in any major segment. No precautionary measures, self-imposed by business, can be regarded as unduly severe if they can prevent this devastating blight.

2. Financial agencies can and should play a responsible role in regularizing equipment demand. Funds for the purchase of producers' equipment should be offered boldly and at low interest during depression periods, and should progressively tighten as a boom market bids up the price of purchase and installation. Banks and financial houses have excellent facilities for gathering and interpreting market and general economic information. It is good business for them, and for the national economy, to exercise their accepted discretions in a manner that will help to promote economic stability.

3. There now is almost universal recognition of the need for a thorough-going revision of our corporate tax structure to the end that effective incentives may be offered for private capital investment. The possibility of including provisions which would offer special tax concessions to equipment investments made in depression periods is worthy of intensive exploration.

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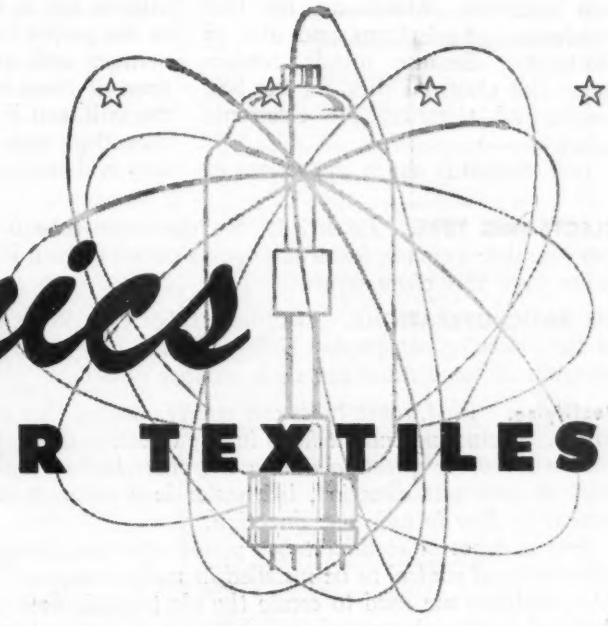
The fundamental problem here is educational. If all business enterprises in a position to do so were to regularize their equipment expenditures, it would have a tremendously beneficial effect. True, it would accomplish no miracles. For many concerns it is not feasible to schedule equipment buying over a long period. Even those who do schedule it are likely in practice to attain only a relative stability. It must be acknowledged, moreover, that few programs could withstand indefinitely a very deep and prolonged depression such as we had in the thirties. Nevertheless the adoption of stabilization policies where feasible would make a signal contribution both to the restraint of booms and to the mitigation of depressions. Here is something industry can do for itself.

It is easy to disparage such remedies for economic instability as are here proposed on the ground that they are partial only. However, joined with others also partial, they can achieve in combination a solid progress toward the goal of sustained high level employment—progress that is unattainable through economic cure-alls. The road suggested is a slow road, and difficult, but it leads upward.

President, McGraw-Hill Publishing Co., Inc.

JULY, 1945 TEXTILE WORLD VOL. 95, NO. 7



Electronics AT WORK FOR TEXTILES

HIGHLIGHTS: Potential applications of electronic devices are indicated for each textile processing operation—Basic operations of electronic tubes include rectifying, amplifying, generating, controlling, and the transforming of light into electrical current—These functions are used for air cleaning, moisture control, twist setting, temperature control, and door opening.

By **HAROLD E. REED,** *Assistant Editor, TEXTILE WORLD*

THE TERM "ELECTRONICS" scares most textile men. Whenever the word is mentioned, it is frequently associated with some other industry or, in rare cases, with some imaginary Rube Goldberg mechanism.

However, few textile mill men know that some of the machines and equipment they possess in their own mills are electronic in nature. For example, fluorescent lamps are electronic, and today they are used in practically every mill. Other mill men may have "weft straighteners" on their tenters or may have moisture control devices on their slashers, and these are also electronic in operation.

The basic operations that may be accomplished with electronic tubes are covered on the following pages and an attempt has been made to give the mill man an idea as to their potential uses. Actual devices employing these tubes are also shown, along with a simple description of the relationship between the electronic device and textile equipment.

POTENTIAL USES. In an effort to determine the potential uses for electronic equipment in the textile industry, the Research Department, McGraw-Hill Publishing Co., Inc., conducted a survey, which is analyzed in this electronic section. One point brought out by the survey and mentioned above was that many mill men did not know what electronic devices they had in their plants. Another was their belief that electronics could solve any problem. While it is possible that electronics can solve most difficult problems, it should be remembered that electronics are not a "cure-all."

In an effort to assist mill men in learning about the potential uses of electronics, charts indicating different types of devices developed and the points at which these devices might be applied to each processing operation are presented. These charts are based upon the results of the potential-use survey, upon present applications of electronic devices, upon known experimental use of devices, and upon knowledge that some devices could be employed as indicated.

The item of cost of installation, as compared with an equivalent mechanical or electric device to accomplish the same thing, is not considered. Likewise, whether an electronic device or a mechanical device will serve the purpose best is not considered. The purpose of these charts is to show the tremendous number of places on textile equipment where there is a possibility that electronic devices might conceivably be used.

ELECTRONICS at Work

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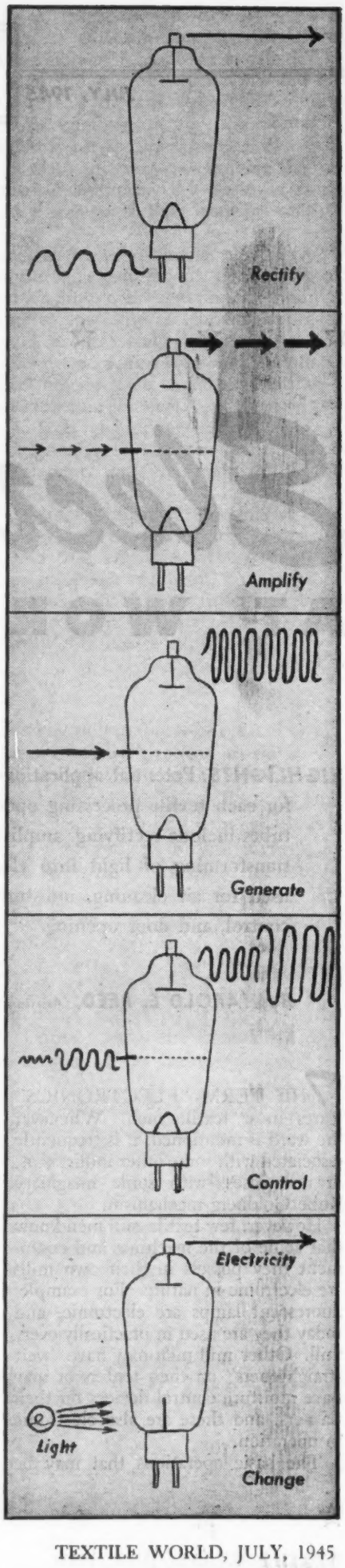
ELECTRONS are almost the smallest particles of matter and carry a negative charge of electricity. All atoms contain electrons. Metals are the best conductors of electrons and also of electricity. Because metals contain many free electrons they are the best sources of electrons for electronic tubes.

Our interest is not in the actions of electrons and how they can be controlled, as these are problems for manufacturers of electronic tubes. Our interest lies in what electrons, if used in the proper tubes and in the proper manner, will accomplish. The functions of these tubes are of interest to the mill man if he is to know to what uses they may be placed and what they will accomplish.



ELECTRONIC TUBE. *Essentially, the electronic tube is a switch. That is, it can complete a circuit, it can also open a circuit when it is desired. All electronic tubes have this characteristic.*

SIX BASIC OPERATIONS. *Electronic tubes can do six basic things described in the following paragraphs. Different tubes may be used to accomplish these purposes or some tubes can do a number of things.*

Rectifying. *First, some tubes can rectify current; that is, they can change a.c. to d.c. Alternating current flows in one direction during one half of each cycle and in the other direction during the other half of the cycle. Direct current flows in only one direction, like water in a pipe. A rectifying tube permits current to flow in only one direction.*

Special types of rectifier tubes permit relatively inexpensive installations of variable-speed control to be installed in mills having only an a.c. power supply. Also, rectifiers are used to create the electrostatic field in an air-cleaning unit designed for the electrostatic precipitation of soot and smoke from air.

Amplifying. *Second, amplification, or the building up of weak electrical impulses, is possible with electronic tubes. When a very weak electrical signal is fed into the tube, this tube, by nature of its construction, will amplify or increase greatly the strength, or voltage, of the signal.*

Such a tube is used in plant communication systems and for providing music in various rooms of a plant. Also it is employed in the measurement and analysis of vibrations, such as may be found in spinning spindles when operated at high speeds.

Generation. *When an electronic tube is connected so that a part of the amplified voltage is fed back into the grid of the tube, then electronic generation of alternating current occurs. Frequencies much greater than those possible with ordinary electric rotating generators can be obtained, making possible the use of these tubes in producing the high-frequency field required in electronic setting of twist and drying.*

Controls. *The grid in some electronic tubes can be used to control the flow of power or electric current. The control circuit is so connected that variations in speed, temperature, or time will automatically regulate the current passing through the tube.*

Motor speed controls which permit stepless control of speeds from nearly zero to maximum motor speed are examples of applications of this tube.

Transforming Light Into Current. *If an electronic tube has a photo-sensitive element within the tube, this photoelectric tube can act as a light relay. The greater the amount of outside light played on this tube, the greater is the current passed by the tube. When connected with an amplifier to increase the strength, such practical units as electronic eyes for counting, door opening and closing, and like devices are possible.*

Converting Electric Current Into Light. *A tube known as a cathode ray tube will convert electron beams into light. This type of tube is of little interest to textile mill men from an industrial angle, as its principal use is for television receiving sets, radar, and like purposes.*

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Potential TEXTILE APPLICATIONS of ELECTRONICS ☆ ☆ ☆

OUTSTANDING PROBLEMS which the textile industry believes that electronic devices can best solve are those of control and of counting and inspection, according to a survey by the Research Department of McGraw-Hill Publishing Co., Inc.

A portion of the 796 industrial plants covered, having 1,432,888 employees and using 16,805 electronic devices, were textile mills. One of the most noticeable facts brought out by this survey, as far as textile mills are concerned, is the lack of knowledge as to what constitutes an electronic device. Many mills have equipment that is electronic in nature, but regard it as simply a mechanical device to accomplish a given purpose.

POTENTIAL USES. A breakdown of the survey reveals that textile mills consider in the order of importance the following applications of electronic devices as best to solve their present problems: controls, counting and inspection, safety, heating, regulation, power conservation, and measurement and analysis. The percentage of mention that each of these items obtained is shown in the accompanying chart.

Each mill was asked to list only three problems facing it which have not been solved to their satisfaction and which might be better solved by electronic devices. Thus, the survey represents only those major problems now facing the industry.

It is interesting to note that while the survey revealed that practically no use of electronic devices has been made for safety purposes and for heating such as the setting of twist and drying of textiles, the potential uses for this equipment rate quite high in the survey. Regulation, that is, skew control and speed regulation, and measurement and analysis, which covers color measurement, accounted for the greatest use of electronic equipment under this classification at present. But, the potential use of such equipment appears to be less, on a percentage basis, than present use. This is probably a false interpretation because those mills answering the questions had such equipment at the present time and their interest would probably be greater toward equipment that they did not already possess.

ELECTRONIC CONTROL BREAKDOWN. Interest in potential use of electronic applications for control purposes in textile mills indicates that humidity control is the number one problem. The belief among mill men appears to be that electronic control over humidity will result in more uniform control because of the greater accuracy and sensitivity of such equipment.

Door opening and closing controls rate as the second problem for the majority of the mills replying. Actually, door opening and closing is closely related to humidity control in that many mills want this mechanism for controlling the doors between rooms maintained at two different humidities.

Another important use for electronics, according to the survey, is for register control. The term "register control" refers to the performing of an operation at definite intervals on a fabric or web; cutting webbing to equal lengths is, for example, an illustration of this type of control. One suggested use for register control, and it was mentioned by a number of mills, is its use to cut the selvage on sheeting at definite intervals so as to assist the operator in tearing the sheets to size. Other suggested uses are for pH indication, precipitation of fibers in finishing to produce a desired effect by electrostatic means, motor-speed regulation, and for the control of moisture in fabrics in drying and in yarns during slashing operations.

ELECTRONIC COUNTING AND INSPECTION. Greatest interest was shown in inspection devices by mills indicating that electronic devices could best solve their problems in flaw detection in actuating filling and warp stop motions.

Other mills also stated that electronic yarn-breakage detectors on tricot and other knitting machines would solve their problems. A mill suggested that a device to locate metal particles in cloth at cloth winders and operate a stop motion would prevent cloth being cut by such particles as the cloth passes through calender rolls. Extensive interest was shown in the possibilities of using counting devices to record the number of pillow cases or other packaged items and for re-

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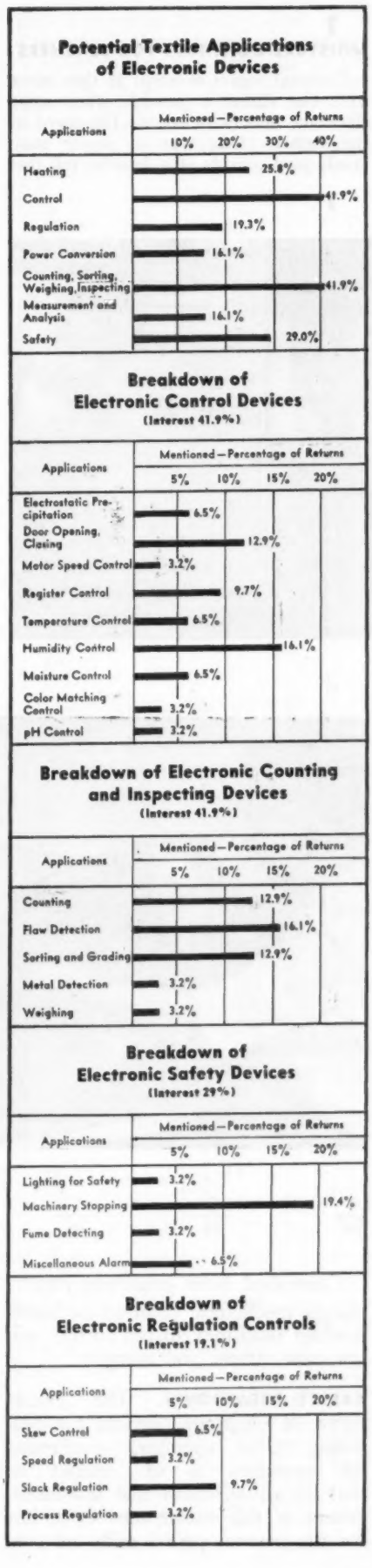

☆ ☆ ☆ ☆ Practical TEXTILE MILL APPL

1

MOISTURE CONTROLS FOR SLASHERS

Constant regain in warps as they come from the slasher is possible when using electronic devices to control the speed of the slasher. One type of device commonly used consists of a detector roll that is in contact with the slashed warp. This roll is generally placed so that it rests on the warp near the drag roll and an electrical connection is made from it to a recording and controlling indicator. This controller, in turn, regulates the operation of a regulator motor which changes the setting of a variable-speed transmission or a variable-speed motor, thereby either increasing or decreasing the speed of the slasher.

Moisture controls are also used on tenters and other equipment where regain in the yarn or fabric is of importance. A permanent record of regain in the material is made by the recording unit.

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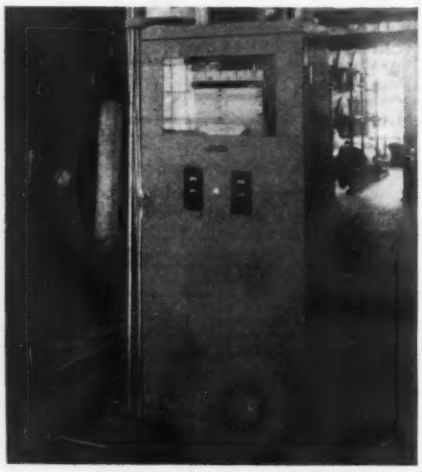

2

ELECTRON MICROSCOPE

Magnifying power with ordinary optical microscopes for clear, usable images is at about 1,000 times. Many objects that are to be viewed are so small that their diameter is less than the wavelength of light. In such cases, the electron microscope is used because electrons have a much shorter wavelength than has light. Magnetic or electrostatic devices replace glass as lenses.

Attachments may be applied to permit diffraction patterns to be made for the identification of dyes, fiber degradation, and other laboratory tests. Semi-portable instruments of the type shown magnify well above 10,000 times.

The microscope shown is now being used for textile research and development work.

3

WEFT STRAIGHTENING (SKEW)

When the weft straightener is used, skew is detected and measured by the frequency of interruptions of light beams which are intercepted by filling (weft) threads. The resultant minute voltage output is amplified to control motor speed through regulations of a generator field and automatically corrects skew. The cloth straightener shown is the tilting roll type which keeps the cloth straight by operating the motor seen at the top so as to change as needed the angle of the roll over which the cloth passes.

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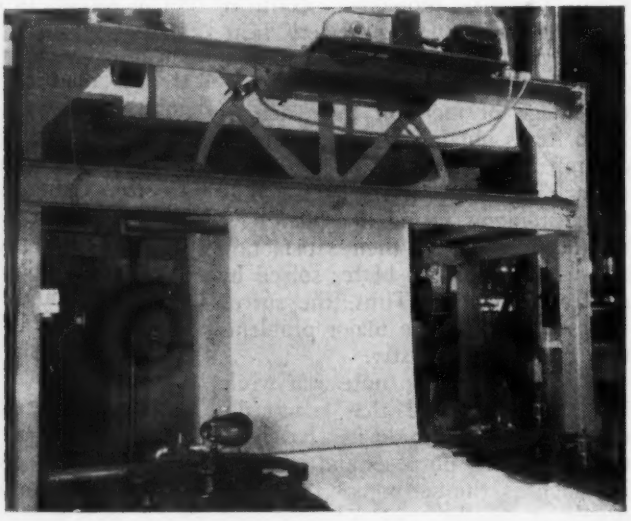

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placing mechanical counters on handkerchief machines, diaper cutters, pillow case cutters, and mangles.

SAFETY BREAKDOWN. The breakdown of electronic devices for providing safer operating conditions for operators is of interest in that the survey shows that few installations of this nature now exist, but for the postwar period mills are considering this item as third in importance.

Possibility of machine stoppage is by far the most important, and such includes an automatic control to stop machinery when the operator or other employee approaches too close to a danger area. Such an installation might include the use of a photoelectric cell to actuate a stop motion when an operator places his hand too close to the nip of a calender.

Another suggestion for electronic devices involves stopping machines when the cloth runs too far to one side of the machine. This would prevent cloth damage and save manpower.

OTHER SUGGESTED USES. Heating electronically, like safety, showed few present installations, but drew many potenial applications. Among these are suggested the drying of various weights of cloth that nor-

CATIONS of Electronic Devices ☆ ☆ ☆ ☆

4

ELECTROSTATIC CLEANING OF AIR

Removal of air-borne particles of dust, soot, pollen, and smoke as small as 1/250,000-in. in diameter is possible by passing the air through an electrostatic field. Current fed to certain electronic tubes produces the desired charge. As the particles pass through the field they receive a positive charge. However, plates in the apparatus are given a negative charge, and as opposite charges attract each other, the positively-charged particles are drawn to the negatively-charged plates. Collected particles are then washed from the plates.

These electrostatic precipitators are well suited for use in textile mills located in large industrial areas where smoke and soot cause much damage to yarns and fabrics.

5

PHOTOELECTRIC DOOR OPENERS

Use of photoelectric cells and relays to open and close doors in mills has proved to be of advantage not only from the safety standpoint, but also for convenience to the employee and from the savings which accrue when the devices are attached to doors that separate rooms or areas which are maintained at different relative humidities. The beam of light, when interrupted by an object, causes the photoelectric cell to operate a relay which, in turn, causes a small geared motor to open or close the door. Some types of equipment are operated by compressed air.

Other uses of photoelectric cells are for counting, for eliminating slack in range processing, for turning lights on and off, and for safety purposes such as stopping calenders when an operator places his hand near the nip of the rolls.

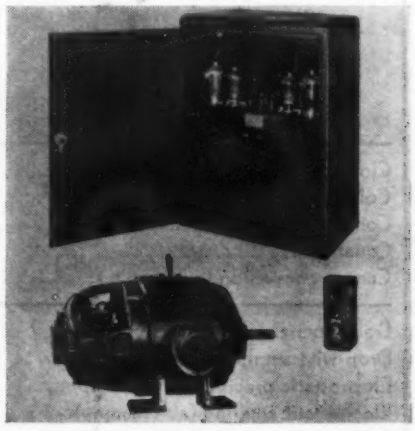
6

ADJUSTABLE-SPEED ELECTRONIC MOTOR DRIVE

Control over motor speed is essential in all types of range processing operations. Also, whenever two or more operations are combined so as to form a continuous processing of materials, some form of speed control is desirable. For ideal conditions in spinning, a variable-speed drive should be employed to change speed of the spindle at points in build of the bobbin.

This type of motor control usually employs a thyratron tube to convert a.c. to d.c. current so as to operate a d.c. motor. A motor of this type can then be controlled as to speed by varying the field current when suitable tubes are used. Stepless control of motor speed from practically zero to maximum permitted by the motor is possible, and with speed pre-selection.

6



4

5

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

mally require different speeds and temperatures to obtain uniform results, also electronic heating to apply the initial set or drying of painted or coated fabrics prior to contact with drums or conveying rolls. Use for sealing plastic-coated fabrics, such as those of vinyl resin coatings, have been suggested for electronic equipment. Such machines have been already developed in the form of electronic "sewing" machines.

Regulation controls for adjusting tension and slack by electronic means, as indicated in the survey, shows that mills consider the question of proper tension through the various processes as one of the most important problems confronting them. It is believed that control of slack ends in warping, slashing, and weaving, as well as in winding, spooling, dressing, and knitting can be handled best electronically.

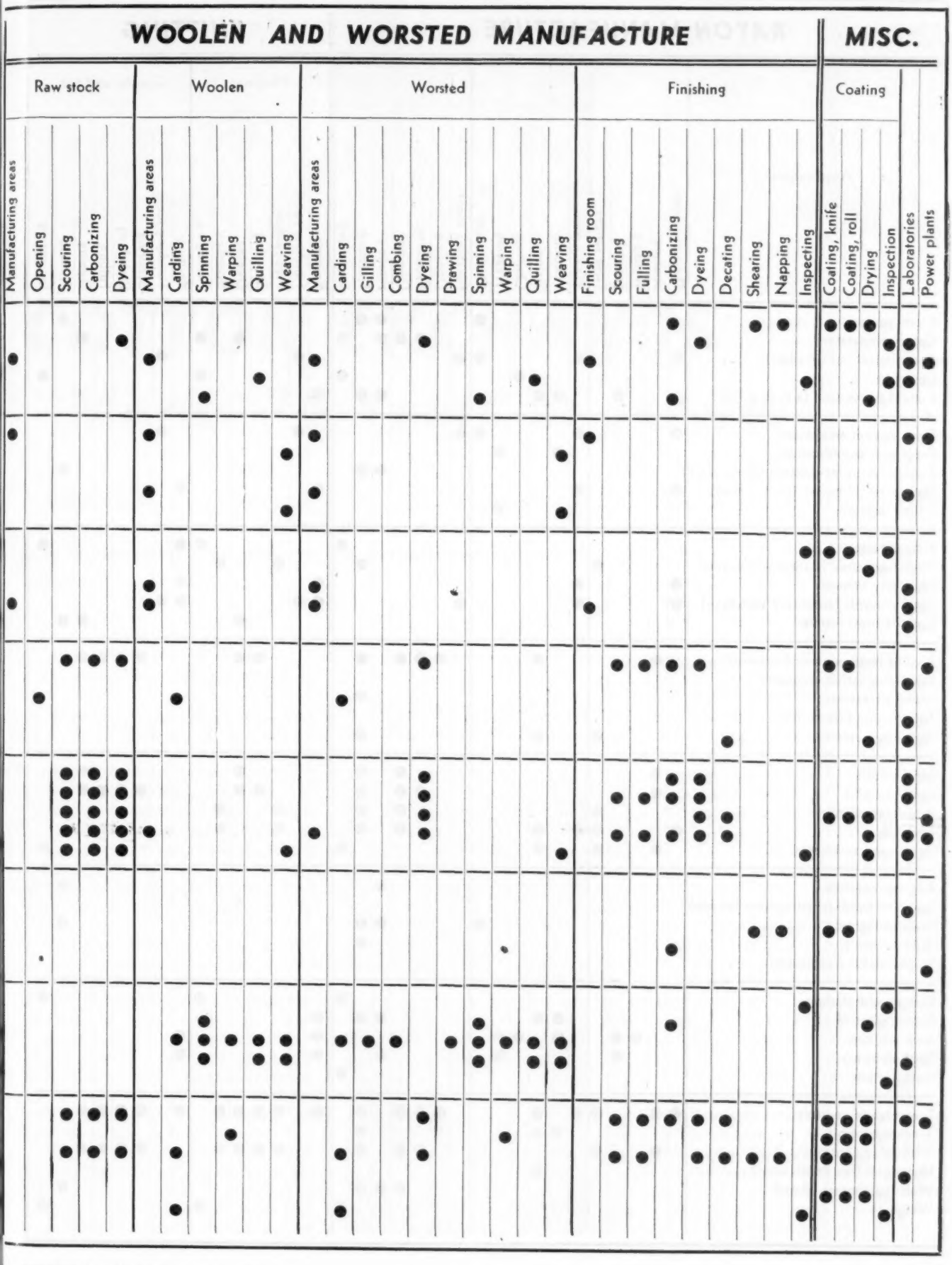
Power conversion, namely from a. c. to d. c., to permit speed regulation of motor drives as a potential use, and the use of electronics for measurement and analysis were considered as mill problems. Color analysis, moisture content measurements of yarns during slashing, stroboscopic measurements of spindle speeds, and the use of the stroboscope for watching register and warp lines in printing are considered by mills as actual present uses and as potential uses of electronics.

☆ ☆ Actual and Potential ELECTRONIC

COTTON MANUFACTURE

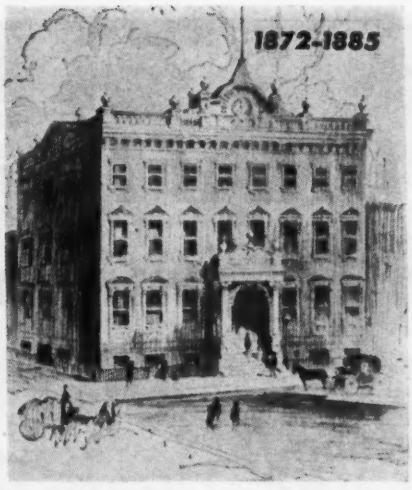
Application	Opening room	Opening	Picking	Card room	Carding	Combing	Drawing	Roving	Spinning room	Spinning	Twisting	Slasher room	Warping	Slashing	Weave room	Quilling	Drawing-in	Weaving	Cloth room	Finishing room	Mercerizing	Scouring	Bleaching	Dyeing	Printing	Finishing	Inspecting	Manufacturing areas	Opening
Cloth guider																			●		●				●	●			
Color comparator																							●	●	●				
Communications (in-plant)	●			●					●			●			●				●	●			●	●	●		●		
Counting																●	●										●		
Current conversion (a.c. to d.c.)			●		●					●	●		●	●					●		●		●	●	●	●			
Door opener and closer	●			●					●			●			●				●	●							●		
Drop-wire amplification													●					●											
Electrostatic precipitation (flock ptg.)																									●	●			
Electrostatic filtering (air-cleaning)				●					●						●					●									
Filling detector																		●											
Flaw detector																			●							●			
High-frequency heating and drying																										●			
Humidity controls	●			●					●						●														
Light controls (automatic switching)	●			●					●			●			●				●	●									
Light-fastness testers																								●	●		●		
Liquid-level controls (floatless)														●							●	●	●	●	●	●			
Load-elongation recorders																						●							
Metal detectors		●	●																						●	●			
Microscope (electronic)																													●
Moisture controls														●		●										●			
pH controls																					●								
pH indicators														●							●	●	●	●					
Process regulation		●	●																		●	●	●	●					
Recorders	●			●					●					●	●					●	●		●	●					
Regain measurements		●	●		●									●					●										
Register controls																									●				
Scanning heads (charting fiber lengths)																													
Seam detectors																			●						●	●			
Slack controls																					●		●	●					
Smoke-density indicators																													
Sorting and grading																			●										
Speed controls			●		●					●	●										●		●	●	●	●			
Stop motions		●	●		●	●	●	●		●	●		●	●		●		●	●										
Stroboscopes		●	●		●		●	●		●	●		●			●		●							●	●			
Tape cutters																													
Temperature controls				●					●			●		●	●						●	●	●	●	●				
Tension controls							●	●					●	●				●			●		●	●	●	●			
Time-relay controls		●	●																			●	●	●		●			
Ultraviolet (for sterilization)														●												●			
Weft straightener (skew)																			●						●	●			
Weighing		●	●																										

APPLICATIONS in Textile Mills ☆ ☆ ☆



Actual and Potential ELECTRONIC APPLICATIONS in Textile Mills (Concluded)

Application	RAYON MANUFACTURE																			KNITTING											
																				Hosiery							Circular and flat				
	Throwing room	Soaking	Winding	Twisting	Twist setting	Weave room	Warping	Sizing	Quilling	Weaving	Cloth room	Finishing room	Desizing	Bleaching	Dyeing	Printing	Finishing	Inspecting		Knitting	Finishing room	Preboarding	Scouring	Dyeing	Boarding	Packaging	Knitting	Finishing room	Scouring	Bleaching	Fulling	Dyeing	Printing	Inspecting
Cloth guider											●					●															●	
Color comparator														●	●	●								●							●	
Communications (in-plant)	●					●					●	●				●					●						●					
Counting									●									●							●							●
Current conversion (a.c. to d.c.)				●			●	●								●	●			●												●
Door opener and closer	●					●					●	●									●						●					
Drop-wire amplification							●			●																						
Electrostatic precipitation (flock ptg.)																●	●														●	
Electrostatic filtering (air-cleaning)	●					●														●							●					
Filling detector										●																						
Flaw detector																			●							●	●					●
High-frequency heating and drying					●												●					●			●							
Humidity controls	●					●														●							●					
Light controls (automatic switching)	●					●						●								●	●						●					
Light-fastness testers															●									●						●	●	
Liquid-level controls (floatless)		●						●					●	●	●		●						●					●	●			
Load-elongation recorders																							●									
Metal detectors																	●															
Microscope (electronic)																																
Moisture controls					●			●									●															
pH controls		●													●																	
pH indicators		●												●	●								●					●	●			
Process regulation					●									●	●		●					●			●							
Recorders	●				●	●		●							●		●					●			●							
Regain measurements		●			●			●										●														●
Register controls																●															●	
Scanning heads (charting fiber lengths)																																
Seam detectors											●					●	●														●	
Slack controls																	●															
Smoke-density indicators																																
Sorting and grading																		●							●							●
Speed controls							●	●								●	●			●												
Stop motions			●	●			●		●	●										●							●					
Stroboscopes				●						●						●				●							●					
Tape cutters																		●														
Temperature controls	●	●			●	●		●					●	●	●		●			●		●	●	●	●		●		●	●		
Tension controls							●	●									●															
Time-relay controls		●			●									●	●		●					●	●	●	●				●	●		
Ultraviolet (for sterilization)								●																								
Weft straightener (skew)															●	●	●														●	
Weighing																		●								●						●



COTTON EXCHANGE
Marks 75 Years of Service

HIGHLIGHTS: *New York Exchange offered first organized market for future contracts—It all started after Civil War when shipping was slow and need for money keen—Purchase and sale of futures provided facilities for hedging.*

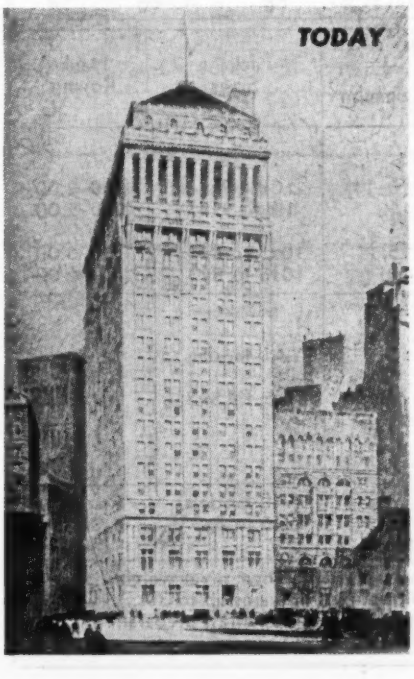
By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

THE HISTORY of the New York Cotton Exchange is the history of the development of trading in futures. Thanks to trading in futures, purely seasonal fluctuations in agricultural commodities have been largely ironed out and facilities for hedging against loss through fluctuation of raw materials, both mineral and vegetable, have been made available to manufacturers all over the world.

On Aug. 15 exercises will be held commemorative of the 75th anniversary of the founding of the New York Cotton Exchange, at which time tribute will be paid to the now almost legendary figures who created the exchange, set the standards of integrity which have since ruled the observance of its contracts, and established the principles on which many other commodity exchanges now operate.

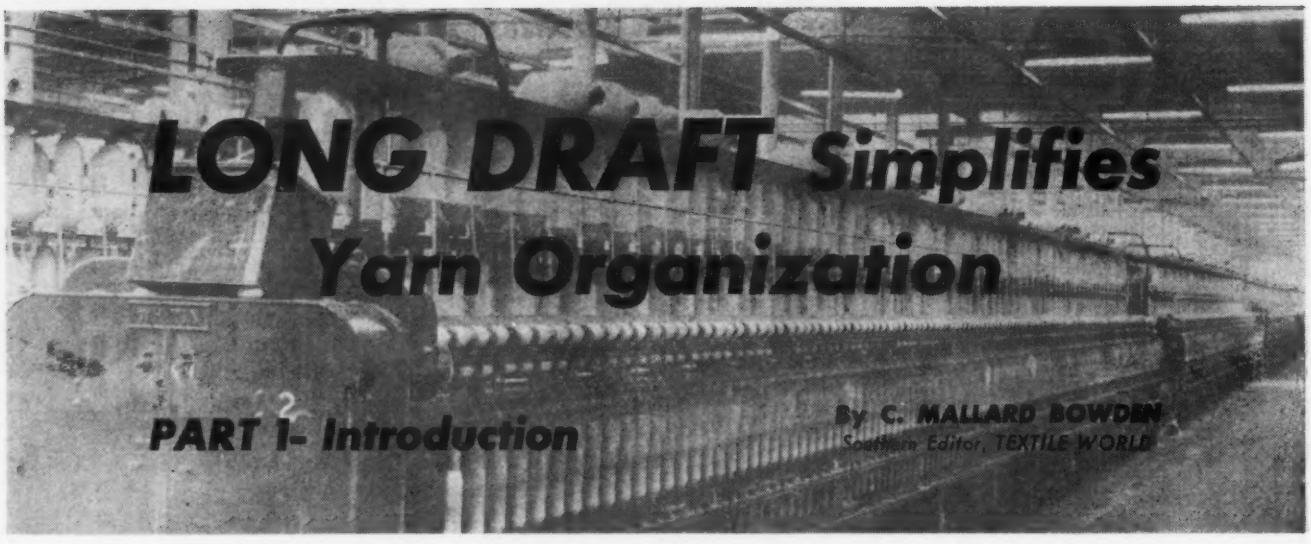
The first meeting of charter members of the exchange was held on July 20, 1870. On Aug. 15 of that year a location at 142 Pearl St., New York, was obtained and officers were elected. First trading was started on Sept. 7, 1870.

IN SAILING-VESSEL DAYS. Before the Civil War cotton was shipped out of Southern ports for New York or Liverpool in slow-moving sailing vessels and sold on its arrival only after long and trying delays. Obviously the principal sales period followed the harvest period, and the farmer had no exact idea in advance what his staple would bring. Immediately after the Civil War, the South wanted money as fast as possible and the practice was started of selling cotton while afloat on samples dispatched to the port of destination by the faster steamships which were then coming rapidly into wider use. This plan did not work too well; for, if current news was bullish, sellers would not sell; and, if bearish, buyers would not buy. As a result, there evolved a plan of selling for future shipment in one of two named months if destination was Liverpool, and in one named month if destination was New York. Grade and staple were indicated by description, and adjustments were made later by sampling the actual cotton. The more distant months invariably carried premiums to cover carrying charges. These contracts were sold or bought by brokers running about among the offices of New York cotton merchants, already localized in the vicinity of Pearl and Beaver Streets.



Toward the close of the 60s, the brokers began to congregate in the centrally located office of one of their number for their obvious convenience. In 1868 a group of cotton dealers organized the New York Board of

(*Continued on page 202*)



LONG DRAFT Simplifies Yarn Organization

PART 1- Introduction

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

Table I—Range of Drafts and Sizes—Pickers through Roving Frames

	Doublings	Draft		Size	
		Range	Common	Range (Oz.)	Common (Oz.)
PICKING (Single process)					
Beater sections—1, 2, or 3 (Blade, Kirschner, or Buckley beaters)		2–4	3	8–20	14
CARDING				(Gr.)	(Gr.)
Short staple		90–110	100	60–65	60
Medium staple		100–110	105	54–60	55
Long staple		110–130	110	45–55	50
DRAWING					
Lap winder	16		1.04	676–954	831
5-roll controlled draft	16	16–20	16	40–66	54
Bi-coil drawing	4		4	40–75	60
4-roll regular	6–8	4–8	6	40–75	60
COMBING					
Lap winder	20		1.04	692–961	846
Double-head comber	6		68	600–900	750
Sliver lapper	16–28	1.26–3.51	1.85	400–800	550
Ribbon lapper	4–6	3.12–6.09	4.50	400–800	600
D-4 comber	8	38.48–171.67	68	40–66	58

	Draft		Package Sizes	Hank Roving
	Maximum	Common		
LONG-DRAFT ROVING				
H & B 4-roll				
Low-grade carded	14	10–11	10x5, 9x4½	1.00–2.00
High-grade combed	15	11	10x5, 9x4½	1.00–2.00
H & B 5-roll				
Low-grade carded	20	15	10x5 to 8x3½	1.00–6.00
High-grade combed	30	18	10x5 to 8x3½	1.00–6.00
S-L Model M				
(1-in. stpl.)	9			
(1 ⅜-in. stpl.)	12		(All models)	Rovings
S-L Model J-3				1.00 to
(1-in. stpl.)	25		11x5 to 8x3½	6.00
(1 ⅜-in. stpl.)	33			
S-L Model D-2				
(Mixed stpl.)	25			
Whitin long draft	10	7.5	(All models)	Rovings
Whitin inter draft	18	16	12x6 to 8x3½	1.00 to
Whitin super draft	40	24		6.00

Note—Better results are obtained on high-grade work when sliver weights do not exceed 50 gr. One-process roving can be used on yarns up to 30s. Two processes of roving are advisable for yarns of 30s and up, unless preparation is excellent.

HIGHLIGHTS: *Carded-yarn mills generally have changed to long draft—Combed-yarn mills consider postwar purchase of long-draft equipment — New drawing frames have wide range of draft—Shaw spinning increases potential drafting of mixed fibers—Tables show normal and maximum drafts as aids to figuring yarn organizations.*

RAPID EXPANSION in the use of long-draft equipment prior to the war indicates that long draft undoubtedly will be a major item in postwar plans for carding and spinning machinery. It has become almost standard equipment in carded-yarn mills, and its use is growing in combed-yarn mills. One reason for its greater extension in the former than in the latter seems to be that carded-yarn mills generally are larger and obtain a greater return on the investment than the combed-yarn mills. Because also of quality demands, many combed-yarn mills have been slow to break away from well-established methods of manufacture.

There are indications, however, of a continued transition—as soon as the machinery supply permits—from the three-process picking and roving and the short-draft spinning which have characterized most combed-yarn manufacturing in the past. Some mills already have shortened their picking and roving processes. Few have installed long-draft spinning, but many are interested in the standard long-draft methods and in the new Shaw spinning which is said to draft up to 30.

Other developments which may

Continued progress by cotton mills in the adoption of single-process picking, long-draft roving and spinning, and improved drawing and combing equipment necessitates a revision of yarn-processing methods heretofore considered standard. These data on drafts, doublings, and package sizes are offered as a guide by which the mill can gage its own development of these new factors affecting the manufacture of yarn. Many mills had completed modernization before the war, while others were only partly changed over when the war began. Others were caught with obsolete equipment, and indeed many have had to supplement their regular production facilities with outmoded equipment in order to meet the need for war products. With the prospect of a greater postwar demand for new equipment here and abroad, mills realize the advantage of basic planning now. And this data on the newer and shorter processes of yarn manufacture may aid them in the planning. The drafting of carded yarns from 4s to 40s and of combed yarns from 30s to 120s are covered. Appropriate information is given for the doublings. The organizations given, if compared with a specific mill organization, must be examined in light of the cotton and yarn requirements.

prove essential to a postwar plan for combed-yarn manufacture are the five-roll and controlled-draft drawing, the bi-coil drawing, and the double-head comber. These and other new improvements have come to the front as possible means by which combed-yarn processing may be shortened and improved.

This and the articles to follow in the series will discuss organizations for manufacturing both carded and combed yarns. They will also contain as much data on the newer processes as experience with these machines permits. Maximum drafts are given for all machines; and when possible, actual operating drafts taken from the experience of practical mill men are included. These figures will vary with conditions of manufacture and of the product, and no attempt is made to outline an organization which would be applicable to all conceivable mill conditions.

DRAFTS AND MACHINES USED. Single-process picking, except when running colored cotton and rayon staple, has become standard for most carded-yarn mills. In addition, one or two processes of roving, of which at least one is long draft, and long-draft spinning of single and double roving can also be considered standard. In Table 1, drafts and sizes are shown for picking, drawing, combing, and roving; and Table 2 gives normal drafts for spinning of both carded and combed yarns of various commercial staples.

Five-roll controlled-draft drawing, using 16 to 20 ends in the form of a lap from the lap winder, is said to have given good results without additional drawing. Bi-coil drawing has given an increase in production per delivery, more evenness due to a reduction in draft, and a considerable saving in floor space. However, when the yarn is combed, it is found in some cases that one extra process of drawing is necessary after combing to reduce sliver variation. The organizations given will be based on these processes of drawing.

Long-draft roving in carded-yarn mills consists in many cases of only one process, although some mills making fine yarns require additional roving processes. Standard for this operation are the various long-draft roving frames of the three principal machine builders.

(Continued on page 194)

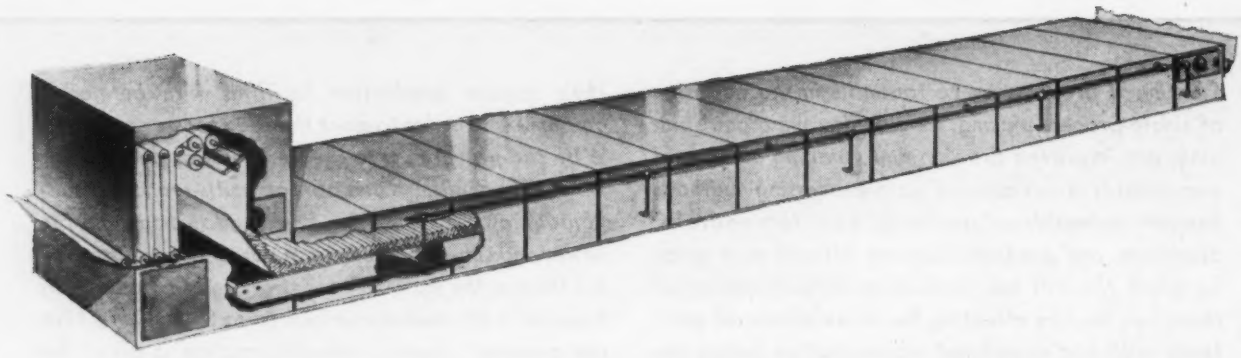
Table II—Spinning Drafts

Staple (in.)	CARDED						COMBED		
	Single Roving			Double Roving			Double Roving		
	Coarse	Med.	Fine	Coarse	Med.	Fine	Coarse	Med.	Fine
7/8	10	11	12	12	13	14			
15/16	10	11	12	12	13	15			
1	11	12	13	13	14	16			
1 1/16	12	13	14	14	15	17	12		
1 1/8	13	14	15	15	16	18	13	19	20
1 3/16						19	13	20	21
1 1/4						20	14	21	22
1 5/16								21	23
1 3/8								21	23
1 7/16								21	24
1 1/2								21	24

Coarse yarns from 1s to 12s. Medium yarns from 13s to 25s. Fine yarns from 26s up.

TABLE III—Yarn Contraction in percent for Various Twist Multipliers

Twist Multiplier	Percentage of Contraction	Twist Multiplier	Percentage of Contraction	Twist Multiplier	Percentage of Contraction
3.00	3.10	3.70	4.95	4.40	6.80
3.05	3.25	3.75	5.08	4.45	6.93
3.10	3.40	3.80	5.20	4.50	7.05
3.15	3.53	3.85	5.35	4.55	7.20
3.20	3.63	3.90	5.50	4.60	7.35
3.25	3.78	3.95	5.60	4.65	7.48
3.30	3.90	4.00	5.70	4.70	7.60
3.35	4.03	4.05	5.85	4.75	7.73
3.40	4.15	4.10	6.00	4.80	7.85
3.45	4.28	4.15	6.15	4.85	8.00
3.50	4.40	4.20	6.30	4.90	8.15
3.55	4.55	4.25	6.43	4.95	8.28
3.60	4.70	4.30	6.55	5.00	8.40
3.65	4.83	4.35	6.68	—	—



STEAM PROCESSING
Scours Cotton Continuously

HIGHLIGHTS: *Goods handled in open width at 100 yd. per min. to scour 4,000 to 6,000 yd. per hr.—Scouring time is 45 min. or less.— Second steamer can be used to bleach and to form continuous process.*

By P. J. ARIENTE, *Sayles Finishing Plants, Inc.*

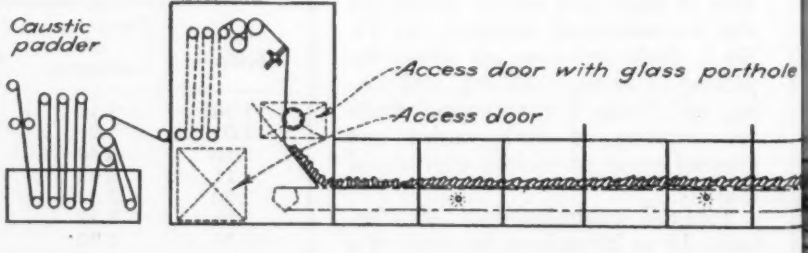
A HORIZONTAL, CONVEYOR-TYPE steamer which handles all goods in open width was described at a recent meeting of the American Association of Textile Chemists & Colorists. This steamer, developed by The Mathieson Alkali Works, is in use at Sayles Finishing Plants, Inc., for both preparation and bleaching.

Most of the goods being handled at the present time are Army fabrics, poplins, oxfords, and twills. The goods to be prepared are impregnated in a hot padder (180° F.) with a solution containing 6.5% caustic soda, 0.5% synthetic detergent, 0.1% penetrant, 0.25% Textone. The Textone is included principally because of its ability to solubilize starch, thus giving better desizing action. The detergent insures even saturation of the fabric.

Traveling in open width through the padder at 100 yd. per min., the goods then pass between rolls which remove the surplus liquid, and then into the steam chamber, kept full of steam at atmospheric pressure. Before reaching the slowly moving conveyor, which travels at 2 ft. per min., the fabric passes in front of a row of steam jets, issuing from a perforated pipe, which causes it to billow outward and to fall on the conveyor in loose folds. The goods thus form a continuous pile about a foot high and are carried through the steamer with every portion uniformly exposed to the action of the steam.

At the end of its travel in the steamer, the fabric is removed from the conveyor, also at the rate of 100 yd. per min., and washed in a 4-compartment open soaper.

STRAIN ELIMINATED. Because the goods are always handled in open width, with no strain on the fabric, almost any type of cloth may be prepared in the steamer. A change-over from one fabric to another is easily accomplished by sewing the end of one batch of goods to the next batch. The time of the steaming may be



Photograph at left shows how different widths of cloth can follow each other in the steaming process. At extreme right, next page, cloth is leaving the steamer. Between is a diagrammatic lateral view of the steamer.

varied by changing the speed of the conveyor, but one-half hour is satisfactory standard practice. The volume of cloth handled may also be varied; to increase it, the fabric is drawn into the steamer more rapidly, thus increasing the height of the pile. Usually, the goods are drawn in at 100 yd. per min.; and 4,000 to 6,000 yd. per hr. are scoured.

Most of the government fabrics are dyed directly O.D. 3,7,9, or khaki. The single alkaline steaming gives a good dye bottom, with excellent absorbency, even dyeing, and practically no difficulty from resist spots and stains.

When white goods are desired, or when the fabric is to be dyed light colors, this single alkaline steaming is followed by an acid Textone bleach, carried out in a second steamer. The same procedure is followed with the appropriate change in the padder solution.

BLEACHING PROCEDURE. For bleaching, the solution in the padder contains 2% acetic acid, 0.25% Textone, and 0.5% synthetic detergent. After passing through the padder and the steamer, as before, the goods are given a water wash and are then dried and dyed.

It is important that the fabric stay acid through the operation, and it is sometimes necessary to increase the amount of acid in the solution sufficiently to prevent all of it from being driven out of the goods before the steam treatment is completed.

Cotton cloth with a decorative rayon overstripe has been scoured and bleached in this manner, and then dyed light pastel colors. Scouring takes, at most, about 45 min., and bleaching may be accomplished in the same period thus providing a rapid, continuous finishing process completed in 1½ hr.

Textile Tape Becomes ELECTRICAL CONDUCTOR

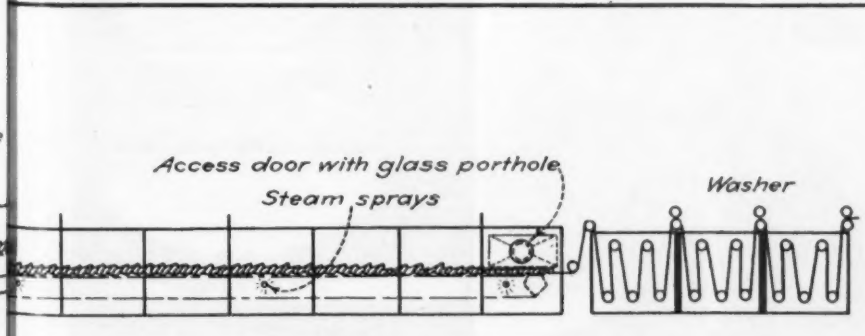
HIGHLIGHTS: *Pacific Mills develop tape suitable for discharging static, shielding electric cable, etc.—Wide range of conductivity.*

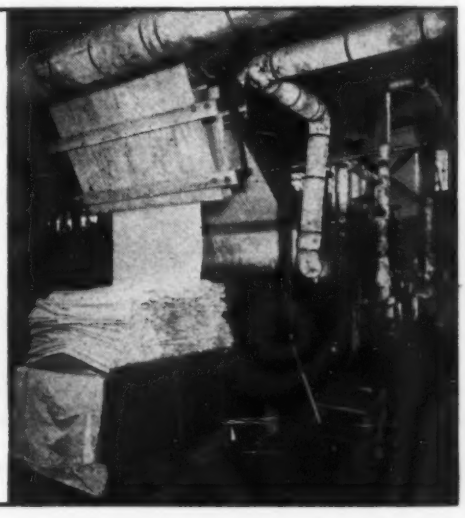
TEXTILE TAPE that can be given comparatively wide range of electrical conductivity has been announced as a development of the cotton and rayon division of Pacific Mills. The tape is still in the experimental stage and is not yet ready for marketing. The corresponding range of electrical resistance is from 10^8 megohms of the dry, untreated material down to a few thousand ohms for the most completely treated material. It is considered that this conductive property renders the material effective for electrostatic flux grading, discharging of static accumulations, elimination of corona, etc. Furthermore, the fact that the tape is a textile enhances its value as an electrical shielding tape over the more commonly used metal tapes because of its properties of flexibility, elasticity, stretchability, etc. It can be wound tightly around cables, especially at joints that are of irregular shape, where it will conform to the movement of a flexible cable without coming loose or inhibiting the free movement of the cable. In addition all edges can be overlapped to eliminate high electrical edge stress without unduly limiting the cable flexibility.

Specifically, the surface resistivity of some of the better conductors, is of the order of 120,000 ohms per square inch per 7 mils thickness. The volume resistivity (in centimeters cubed) is approximately 48,000 ohms. Other samples have been made with surface resistivity of 16 to 24 megohms per square inch and volume resistivity of 1400-2300 megohm-centimeters.

Physical properties of the tape are essentially those of the textile material from which it is slit. Tapes of 7-mil thickness have tensile strength of 45 to 60 lb. per in. of width; others of 2.5- to 3-mil thickness show tensile strength of 35 lb. per in. of width. Other data for a typical 7-mil tape are: thread count, 66 x 56; weight per sq. yd., 3 oz.; tensile strengths of warp, 56 lb. per in. of width; of filling, 36 lb.; tear strength (Elmendorf), 20 grams across warp, 12 grams across filling; stretch (of 1-in. width), 1% (20 lb., 5 min.); air permeability, 170 cu. ft. per min. per sq. ft. per ½-in. static pressure. All of these properties will vary with the structure of the textile, yarn number of threads per inch, etc.

Various types of surface finish are possible and, in addition, the finish can be made either oil resistant, water resistant or both oil and water resistant.





Cramerton Announces AUTOMATIC COMBER

Fig. 2. The automatic can-doffer is controlled electrically and produces accurate predetermined yardage.

HIGHLIGHTS: *Comber productions radically increased to 36-40 lb. per hour with new machine—The comber was designed and built by Cramerton Mills as the first step in an intensive research program—Novel features are the automatic lap-creel device and the electrically controlled doffing mechanism—Suction removes waste continuously from comber, and sliver and cloth quality are improved.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

COMBER PRODUCTION of 36 to 40 lb. per hour has been announced by Cramerton Mills, of Cramerton, N. C., as a result of the operation of a new comber developed under their research program. Other combers in the same room produce 13 to 19 lb. per hour on identical sliver weights. Automatic devices to creel the lap and doff the full can, without any attention from the operator, are other features of this new machine; while the operation of a suction system to remove waste renders the comber fully automatic, except for the occasional piecing of ends.

The Cramerton research program is receiving intensive effort from the company and its engineers. The comber is the first step in the program which is designed to provide drastic improvements in quality and production from company equipment.

In the development of the comber shown in Fig. 1, the company has simplified conventional comber operation and has greatly reduced the number of operating parts. Roller and ball bearings have been used almost exclusively. It is believed that these features will materially reduce the wear of parts on the new machine. The

(*Continued on page* 186)

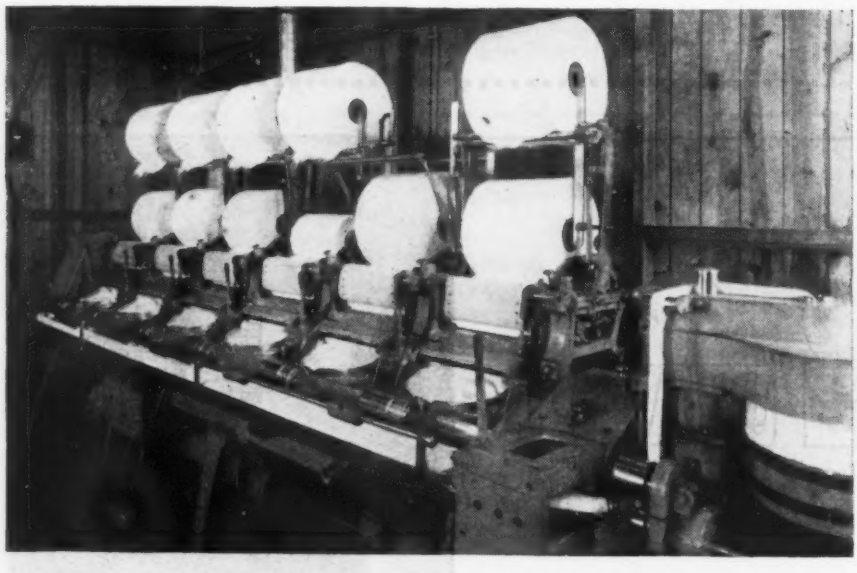


Fig. 1. This is the high-production comber developed by Cramerton Mills research program and capable of producing 36 to 40 lb. per hour.

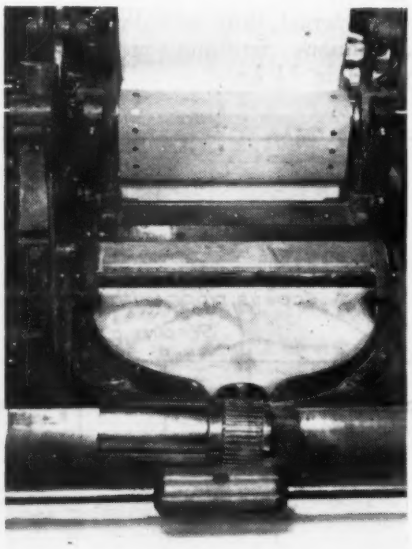


Fig. 3. An example of the web and sliver produced by one head.

The MICROSCOPE— Increasingly Useful For Textile Work

HIGHLIGHTS: *Usefulness far exceeds that of making simple magnifications—Is becoming a control instrument as well as one for research and identification—Full-color movies and stills being made of textile subjects through microscope at Calco laboratory—Electron microscope also in use.*

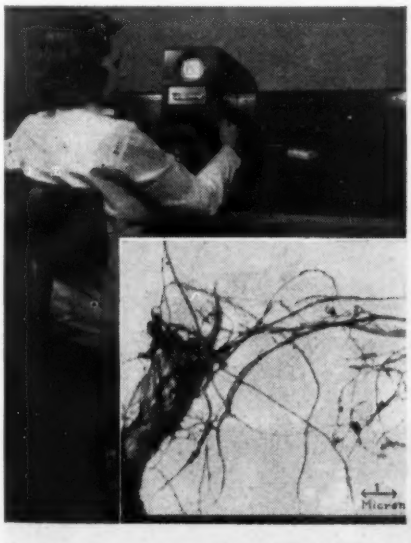
By C. W. BENDIGO
Executive Editor, TEXTILE WORLD

TEXTILE MICROSCOPY goes considerably beyond simple magnifications, as can be seen by the apparatus shown on this page and the next, and by the full-color photomicrographs on the third page.

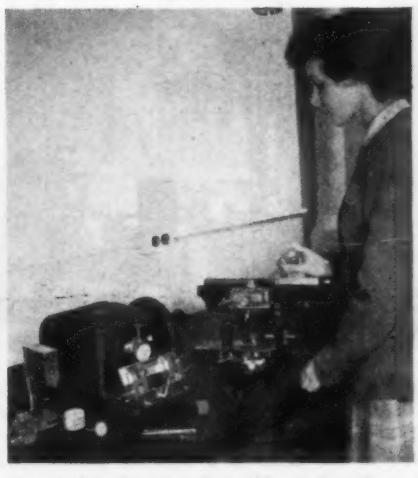
The apparatus shown is part of that in the microscopical laboratory of the Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J., and is being used for textile research, development, and process control, as well as for identification of fibers and material on them.

An outstanding practical use of microscopy has been in the development of dyeing and finishing technics. Cross-sections and longitudinal views seen under the microscope have shown how coloring and finishing materials react, with the result that truly scientific dyeing and finishing procedures can be worked out. Much information of this nature has been published by the company under the authorship of

Dr. George L. Royer, co-author of many bulletins such as reproduced above, is the organizer of the microscopical laboratory using the equipment shown on this page and the next. Dr. Royer has done much to popularize the use of microscopes for dye control and fiber identification both through writing (such as above) and through illustrated talks (AATCC and AATT) during which he often shows two photomicrographic slides projected simultaneously.

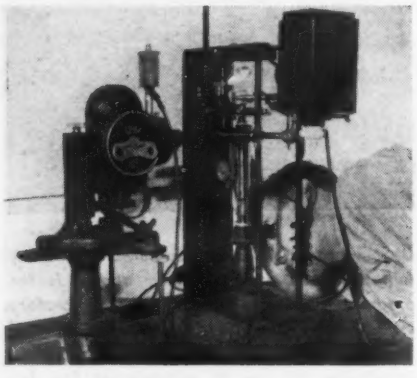


The electron microscope is the ultimate, to date, in microscopical equipment. It is interesting to know that the third production model of type EMC (the one shown) is being used in textiles. The accompanying electron-micrograph of disintegrated cotton fiber was magnified on it 5,000 times and was further magnified photographically to 20,000 times. (The reproduction shown is much less.) The electron microscope is also useful in studying the size and shape of pigments used in coloring textiles.



The cross-sectioning operation in preparing specimens for microscopical examination is of extreme importance and requires much more care than does normal microscopical examination. At left Miss Katherine Kemp is employing a Hardy cross-sectioning apparatus as modified in this laboratory. Necessary items shown are (l. to r.) a slide supply, embedding solution, press, modified Hardy apparatus, razor blade in holder, light, and binocular (low power) microscope. At the right are rotary and horizontal microtomes for cutting cross-sections from specimens mounted in wax. A freezing technic useful for cross sectioning is not shown.

Ultraviolet light is being used here by Miss Ruth Earner to examine samples of wool dyeing seen at the left. Ultraviolet light causes many materials to glow or fluoresce and thus become more visible or more easily identified. In front of the wool skeins can be seen apparatus for quickly making cross sections. Microscope used here is binocular for visual examination. It is not suitable for making photomicrographs.



Movies in full color (or black and white) can be made through the microscope by apparatus such as this shown here being focused by Ray Krammes. An automatic electronic timer (under the table, not shown) operates a single-frame exposure button on the movie camera at time intervals related to the motion being photographed. When the film is projected on the screen, the action will take place more rapidly. Dye penetration and crystallization can be speeded up on the screen as much or as little as desired, depending upon the interval between individual exposures.

Dr. George L. Royer and associates, such as Charles Maresh and H. E. Millson.

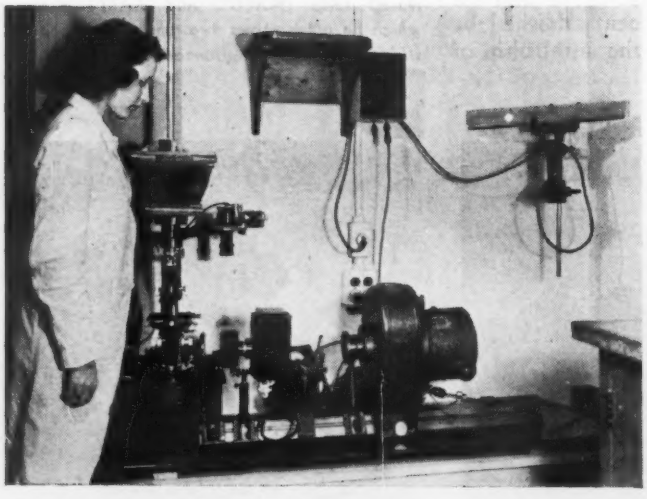
MOTION PICTURES. Full-color motion pictures taken through the microscope have done much to show the manner in which various materials affect textiles and thus to show when end-points have been reached for particular effects.

Ultraviolet and polarized light when used to illuminate specimens under the microscope has greatly increased the range of materials that can be identified, such as the various textile fibers, some of which are shown in the accompanying color photomicrographs. However, many other materials can also be determined, such as colorless resins or particular finishing oils.

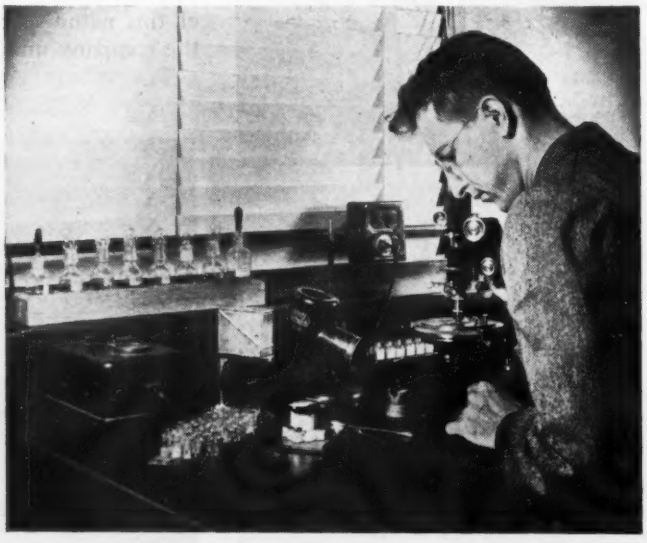
Technics used in preparing specimens, as well as in examining them, still further expand the usefulness of the microscope. For example, treating protein synthetic fibers (Aralac, Lanital, and Soya) with concentrated sulphuric acid while under the microscope will cause diamond-shaped areas to appear in fibers and thus identify them. Of greatest importance, however, are cross-section technics, two of which are illustrated.

COLOR PHOTOMICROGRAPHS. Photomicrographs in color or in black and white can be made for preserving and recording findings. Color photomicrographs, such as shown on the opposite page, are much more difficult to make than are black and white—but are also much more valuable, especially in work with textile dyes. The light source and exposure times must be carefully controlled, in addition to the other items previously mentioned, to obtain results such as illustrated. One technic permits the use of a background color which contrasts or compliments that of the specimen being examined.

Of course, the ultimate to date in microscopy is the electron microscope which is opening new fields of exploration in fiber structures, fiber surfaces, coloring pigments, and the like. Other fields, unknown today, undoubtedly will develop. The console model illustrated will magnify 5,000 times on a photographic plate which can be still further enlarged. Many subjects viewed under ordinary microscopes today are too large to be accommodated in the field of the electron instrument.



Apparatus for making photomicrographs is being adjusted by Mrs. A. M. Harding. The 5 x 7 plate holder in position can be replaced, if desired, by the 35-mm. Leica camera shown to the right. To the left of the Leica is a sensitive photoelectric cell for determining exposure time. The indicating device (upper right), activated by a galvanometer, indicates the light intensity by means of a light circle. On the table can be seen two light sources; an arc light, right, and a filament light between it and the miscroscope. Either can be used. For color photomicrographs, the light source and the exposure time are of much greater importance than for the black and white photomicrographs.



Petrographic miscroscopy, being employed here by Dr. Charles Maresh is especially valuable in identifying fibers and finishes by means of their refractive index. Its chief value is for identifying colorless materials such as crystals, resins, and oils. Specimens are mounted in materials of known refractive indexes. Due to the polarized light used, the specimen disappears when its refractive index matches that of the medium. In the Calco miscroscopical laboratory, over 300 products have been classified as to their refractive index and are used for control.

COLOR PHOTOMICROGRAPHS OF FABRICS AND FIBERS

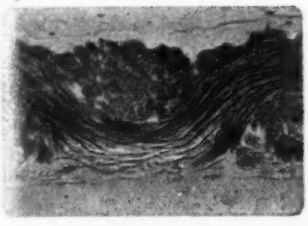


Fig. 1. Cotton Fabric

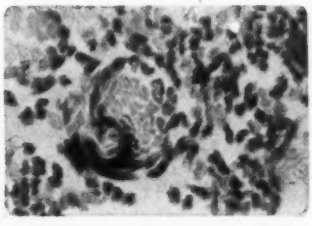


Fig. 2. Acetate-Viscose Fabric

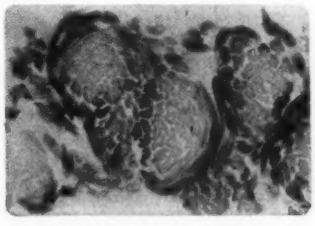


Fig. 3. Same Acetate Removed

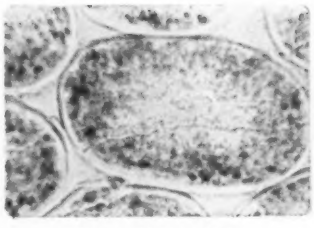


Fig. 4. Human Hair

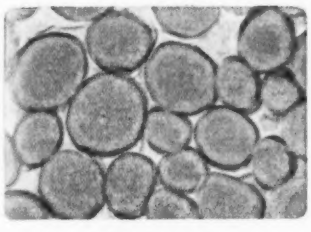


Fig. 5. Wool

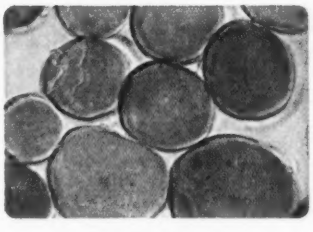


Fig. 6. Mohair

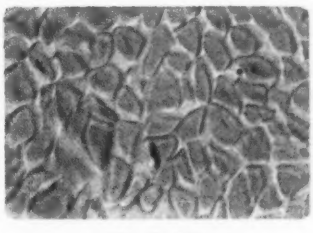


Fig. 7. Silk

Fig. 8. Tussah Silk

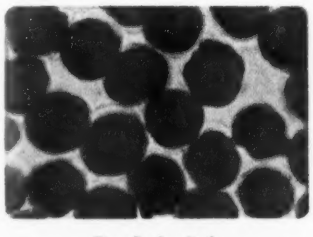


Fig. 9. Lanital

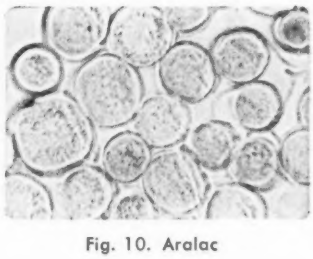


Fig. 10. Aralac

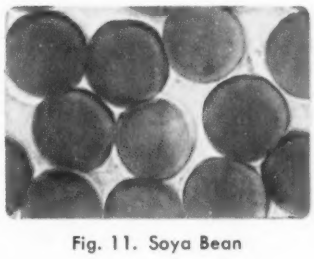


Fig. 11. Soya Bean

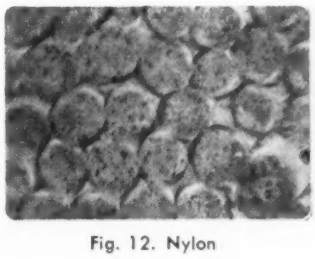


Fig. 12. Nylon

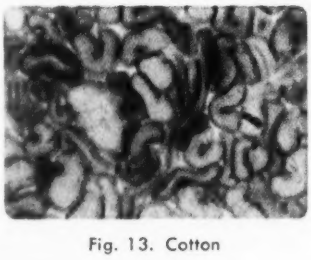


Fig. 13. Cotton

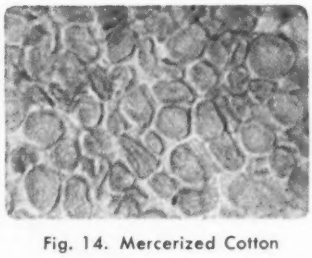


Fig. 14. Mercerized Cotton

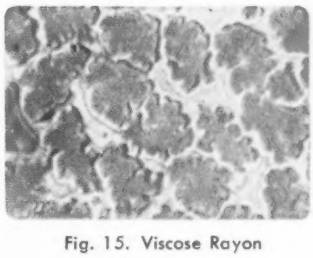


Fig. 15. Viscose Rayon

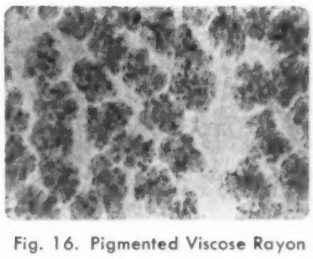


Fig. 16. Pigmented Viscose Rayon

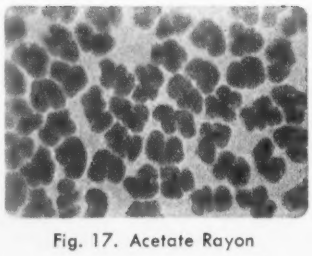


Fig. 17. Acetate Rayon

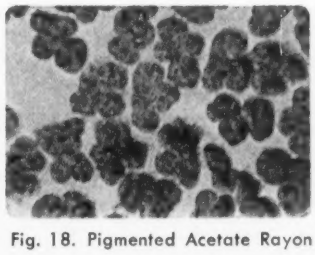


Fig. 18. Pigmented Acetate Rayon

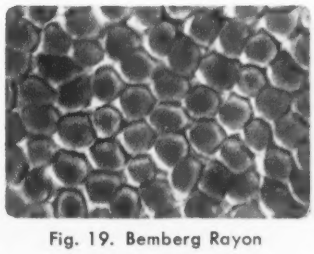


Fig. 19. Bemberg Rayon

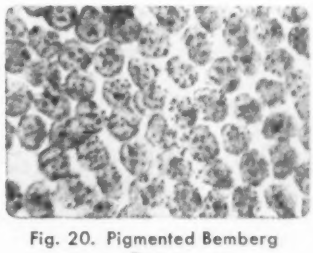


Fig. 20. Pigmented Bemberg Rayon

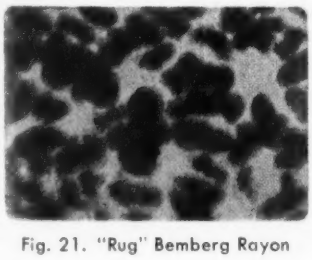


Fig. 21. "Rug" Bemberg Rayon

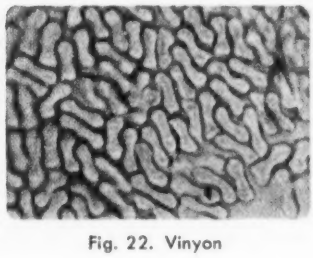


Fig. 22. Vinyon

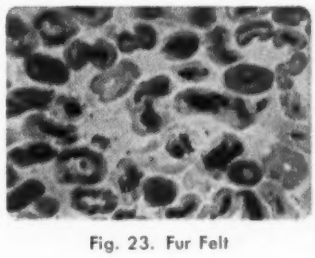


Fig. 23. Fur Felt

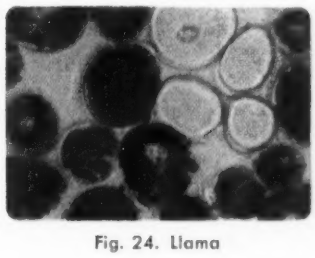


Fig. 24. Llama

These cross-sections show both how dyeings can be checked by use of microscope and how fibers can be identified. Photomicrographs made in laboratories of Calco Chemical Division, American Cyanamid Company, are from Calco Technical Bulletin #770, entitled, "Microscopical Techniques for the Study of Dyeing."

Tests Show Increased CARD SPEEDS Practical

HIGHLIGHTS: *Card speeds and production increased 36 to 50% with no significant loss in yarn strength—Yarn appearance dropped one-third of a grade—Waste increase or decrease depends upon method of increasing card production — Thorough testing routine verifies results of project.*

By ELLIOTT B. GROVER and GEORGE H. DUNLAP

RECENT CARDING TESTS, undertaken at North Carolina State School of Textiles on behalf of the Textile Research Institute and sponsored by the Office of Production Research & Development, WPB, have more fully demonstrated the practicability of increasing production through the cotton card. The tests show a possible increase of about 36% in card production by increasing the over-all machine speed, without significant loss in yarn strength but with some increase in waste. Yarn appearance dropped not more than one-third of a grade. By using higher doffer speeds only, a production increase of more than 50% was obtained without significant loss in yarn strength, with a decrease in waste, and with a yarn-appearance drop of not more than one-third of a grade.

The tests were directed by Malcolm E. Campbell, Dean of the N. C. State School of Textiles, and Giles E. Hopkins, Director of Applied Research, Textile Research Institute. They were undertaken because of the serious shortage in yarn-manufacturing capacity which followed the advent of war and the Army and Navy demands for coarser fabrics.

Earlier research—as indeed the whole tradition of cotton carding—has shown the great flexibility of the cotton card. It has been fed generously and lightly, speeded up and slowed down, set loosely and closely; and it continues as the cotton mill's only indispensable machine, receiving little credit and much blame.

Perhaps this versatility of the card is the reason why the mills rarely agree on the same settings, speeds, or drafts.

It is the reason why the tests were made under as many varied conditions as possible. Although this is only a preliminary report, some effort has been made to encompass all the points and variables of the problem.

METHOD OF TESTING. Four cottons were selected as shown in Fig. 1. They were processed carefully into 25½ lb. laps on the same opening and picking machinery. Uniform mixes were obtained. All the 1⅛-in. cotton was processed into 12 oz. laps. The 1-in. cotton was made into 15 oz. laps, except for one special test group of laps of 9, 11, 13, and 17 oz. per yd. respectively. Careful test practices were maintained and followed to insure accuracy of results.

The eight series of tests shown in

(Continued on page 188)

Cotton	Staple Length (in.)	Chandler Strength (lb.)
A	1	94,000
B	1	65,000
C	1⅛	84,000
D	1⅛	66,000

Fig. 1. Four strict low middling cottons of varied staple length and fiber strength were used in the tests.

Eight Different Set-ups of the Card Were Used for the Tests

1. Over-all card speeds were varied by running the cylinder at 165, 195, and 225 r.p.m.
2. Cylinder speeds only were varied at 165, 195, and 225 r.p.m.
3. Lickerin speeds only were varied at 325, 425, 525, 625, and 725 r.p.m.
4. Doffer speeds only were varied at 6, 8, 10, 12, 14 and 16 r.p.m., with cylinder speeds of 165 and 195 r.p.m.
5. Speeds of flats only were varied at 2.9, 4.9, and 6.9 in. per min.
6. Top edge of front knife-plate was set at 0.022, 0.029, and 0.036 in.
7. Lap-weights only were varied from 9 to 17 oz. per yd.
8. Sliver weights of 40, 50, 60, and 70 gr. per yd. were made from 15 oz. laps.

Fig. 2. The authors, who also made the study for the sponsoring agencies, inspect one of the cards from which they obtained the test data.

NEW LUBRICANTS Aid Oiling and Wet Finishing WOOLENS and WORSTEDS

By **WALLACE P. HEINTZ***
Organic Chemicals Dept.,
E. I. du Pont de Nemours & Co.

Photo by Ewing Galloway

Under actual test runs it has been found that the use of Avitone reduces the time in scouring in many cases and brings about a speedy adjustment of pH within the desired range.

HIGHLIGHTS: *Synthetic substances permit unified processing of woolens —Same product used for oiling is carried into wet finishing—Replaces soap and possibly alkali in fulling and scouring—Performs satisfactorily in processing of worsteds.*

PRODUCTION of clean woolen and worsted cloth is an important requisite of textile manufacture. Weight, color, texture, and finish lose their appeal unless the cloth is free of any visible soil or stain. Equally important is the requirement that it shall be free of any invisible residues that can cause discoloration, bad odor, or deterioration of fiber substance.

Those materials, chiefly oils and soap, intentionally applied to the stock and fabric in process are the ones that plague the finisher, not soil caused by poor housekeeping. Frequently, it is found that the streaky and uneven dyeing is traceable directly to the materials used for lubricating the stock and for wet finishing.

SYNTHETIC DETERGENTS. Synthetic materials such as wetting agents, detergents, softeners, resins, and lubricants have been slow in replacing soap in woolen and worsted proecssing. The development of solvent cleansing of piece goods, originally intended for the removal of tar and paint, has gone far to remove the hazards accompanying the use of wool oils. But there still remains the problem of wet finishing, particularly fulling. Impetus has been given to the application of synthetics in wool processing by sulfonation of hydrocarbons and has resulted in the development of a group of substances which were given the trade name "Avitone." This series combines surface-active, detergent, softening, and lubricating properties, which recommend it for wet finishing operations as a possible replacement for soap.

UNIFIED PROCESS. First use of Avitone was on a 32-oz. stock-dyed overcoating fabric that had been solvent cleansed from the loom. Treatment was with 6 oz. of Avitone per gal. The required head shrinkage of 5½ in. per yd. was accomplished in the same time as with soap and soda ash; cover and felt equalled the regular process. The same was tried on cloth that had not been dry cleaned; here again the results were very satisfactory.

It was realized that if this material was effective as a stock lubricant, it would serve a double purpose, thus having a unified process wherein the same product used for oiling would carry into the wet finishing operation, replacing soap and possibly alkali in fulling and scouring.

TEST RUNS. The fabric chosen for testing was a 14-oz. flannel to be fulled in the grease, scoured, carbonized, and piece dyed. Stock was oiled at the picker with 14 qt. of emulsion per 100 lb. of wool. Emulsion was 1 part oil to 3 parts water and was a conventional type of self-emulsifying mineral oil. It was decided to use 5 lb. of Avitone per 100 lb. of stock with 11 qt. of water to supply approximately the same amount of moisture as in the regular process. The Avitone solution was applied to

(*Continued on page 176*)

* *Results of experimental tests conducted under the direction of the E. I. du Pont de Nemours & Co. on a new line of synthetic materials called "Avitone," and intended to serve as both lubricants and as finishing agents for woolens and worsteds, are related in this abstract of Mr. Heintz's address presented before the Providence Section, American Association of Textile Chemists and Colorists.*

Nashua Induction Program Aids RETURNING VETERANS

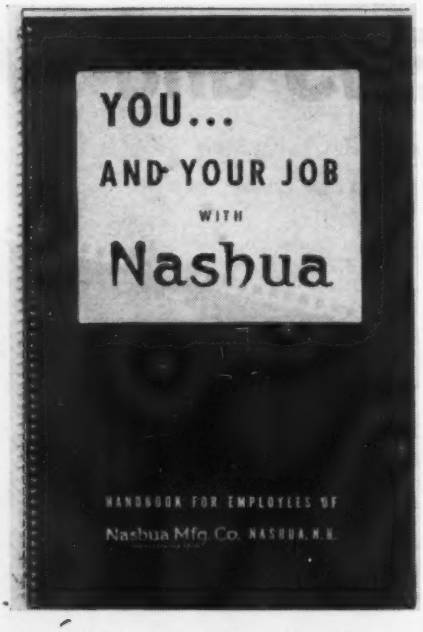
HIGHLIGHTS: *Personnel program at Nashua is based upon analysis of labor-turnover causes — Employment office shares responsibility for making the new worker satisfied—Veterans are given special attention.*

By GUY W. SWALLOW*, CECIL BARNES, and ANNE WILLARD

MANPOWER, the greatest problem confronting the textile industry today in meeting demands for war goods, is not only one of obtaining new labor but also holding present employees. The Nashua Mfg. Co., Nashua, N. H., manufacturers of herringbone twill, powder-bag material, and other articles for the Army and Navy, employing five thousand workers, tried a new approach to this problem; and it is proving successful in reducing turnover among new employees.

Under the stress of labor shortage, Nashua made an analysis of the reasons why workers were leaving. The results clearly showed the need of the following: (1) careful placement on the job; (2) thorough orientation of the new worker to the mill, his department, and work; (3) a follow-up after the new employee had worked two or three weeks to determine what his problems were and if he could be helped. In May, 1944, an entrance program to meet these three needs was inaugurated.

JOB PLACEMENT. When a prospective worker applies for a job at Nashua, he is interviewed in a room apart from the rest of the employment office, and an application is filled out. After the type of work for which the applicant is best suited has been determined, he is personally taken into the mill and shown the job. There he meets the overseer of the department, sees what his surroundings will be, and watches someone doing the work. He is then escorted back to the employment office, and it is definitely decided whether he will start work. If he still wants the job after the trip into the mill, the necessary papers are made out and his picture is taken.



A handbook, illustrated with cartoons, is given each new employee.

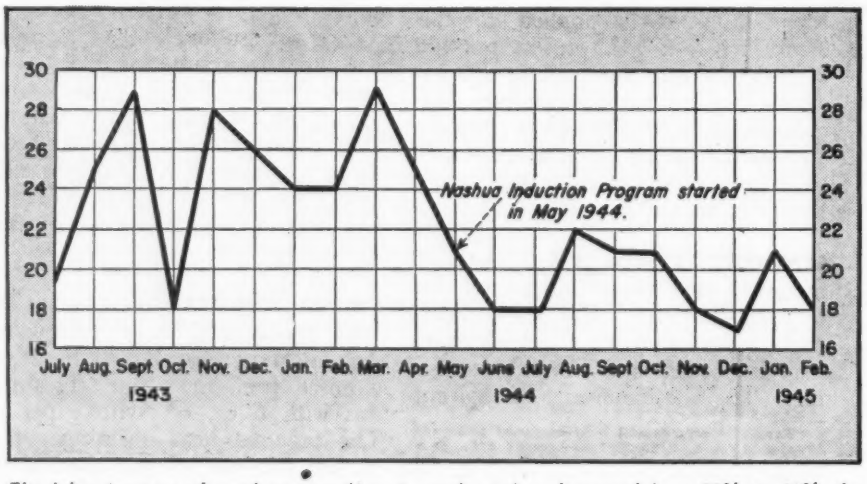
NEW WORKER ORIENTATION. Before the new employee leaves the office, he is turned over to an interviewer who welcomes him into the organization and explains the following fourteen subjects:

1. History of mill
2. Payday
3. Transportation
4. Union and union contract
5. Use of smoking rooms
6. Lunch service
7. Group insurance
8. Workmen's compensation
9. Absenteeism
10. Infirmary
11. Safety rules
12. Suggestion system
13. Vacation pay
14. Selective service

The employee is given an opportunity to ask questions and to clear up any point not thoroughly understood. At the close of the talk a copy of the employee's handbook, "You . . . and Your Job With Nashua," is given to him. This is an attractively prepared handbook illustrated with lively cartoons. It contains a welcome from the management, simple rules of conduct desirable for guidance and protection of employees, services established to aid workers, and items of interest about the growth of the company and its products.

When the interview is finished, an induction card is filled out. On this card is listed the name, department, job, etc., and any notes of interest, such as a special transportation problem or a physical handicap.

FOLLOW-UP INTERVIEW. After the new employee has been working for two or more weeks, an interviewer takes the induction card from the file and goes into the mill to interview the worker and to find out his reaction to the particular job to which he has



The labor turnover of employees working six weeks or less decreased from 39% to 18% the first month the new program was in operation.

* *Employment Manager, Nashua Division, Nashua Mfg. Co.*

been assigned. If it is found the worker has difficulties that need straightening out—whether a transportation problem, misunderstood income tax deduction, wrong job placement, etc.—every attempt possible is made to help him and to hold him on a job with the company. The interview is recorded on the induction card, and interviews are continued until such time as the employee seems to be well adjusted.

When an employee quits, it is necessary for him to come to the employment office for his final pay. At this time, the interviewer tries to find out why the employee is leaving. These "exit-interviews" are reported to the overseers with the monthly induction report.

TURNOVER REDUCED. The best evidence of the success of the induction program has been a noticeable drop in the turnover rate of employees working six weeks or less. The turnover rate for this period of employment in May, 1944, was 39%; in June, 1944, it dropped to 18%; and since that time it has averaged 19%.

The turnover rate for all employees in Nashua Division has been consistently below the average for the cotton-textile industry of the nation. For example, the Nashua average for 1944 was 4.37%, compared to the national average for 1944 of 7.36%.

It is evident that the closer personal attention given to new employees in carrying out the three steps of the induction program has helped to keep down the turnover. Many workers accept employment after a verbal description of the job, only to find it completely different from what they had visualized; and, as a result, they work only a few days or a few weeks. If an employee leaves before completing his training period, the company has been involved in considerable expense with no chance to profit from that expense. This situation is avoided in a great many cases by showing the prospective worker the department in which he will work and by letting him watch someone doing the work.

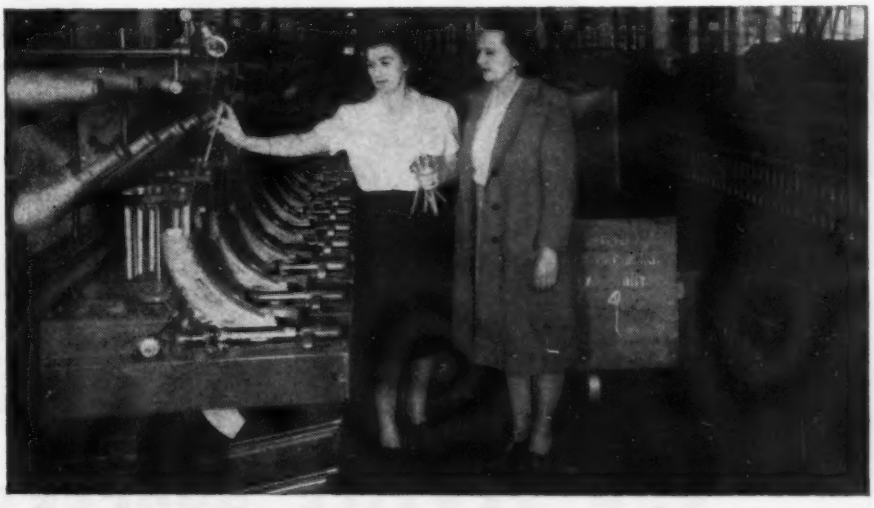
As a result of the induction interview, the new employee begins work knowing that the management requires a standard of conduct and adherence to safety practices, and he knows there are certain services available to him that will aid him with his problems. At the close of the interview, a pleasant word of encouragement goes a long way toward putting at ease a nervous and hesitant newcomer.

FOLLOW-UP IMPORTANT. The follow-up interview is most vital to the success of the induction program, for it unearths misunderstandings of pay rates, income-tax deductions, physical handicaps, transportation difficulties, housekeeping problems, and many varied troubles which seem to arise after an employee starts to work. When an employee is discovered with a problem that can be straightened out for him, the company benefits in two ways: the worker is kept at his job, and a better relationship is established between management and employee. The company's interest in the employee as indicated to him by the fact that someone has come personally to talk over his job and his problems gives him a sense of belonging, of playing a necessary part in the operation of the mill; and each satisfied, contented worker strengthens the power behind the machinery that turns out production.

The overseer, particularly of a large department, is heavily burdened with production as well as personnel problems; and it is sometimes difficult for him to be aware of the personal problems that affect his employees' work. The employment department, dealing only with the worker, is sometimes able through the follow-up interview to uncover difficulties which it might be well for the overseer to know. The induction report, sent to the departments monthly, enables the overseer quickly to pick out any employee or situation which he feels needs attention.

Next, after combatting the growing problem of hiring and holding workers, came the need for specialized attention to take care of the returned veteran. The above program was found to be a practical method of handling this situation.

APPLIED TO VETERANS. When a veteran returns to the employment office, he is greeted and interviewed by the employment manager or his assistant; and his service record both with the armed forces and as a civilian with the company are checked. He is then personally taken, by the employment manager or his assistant, into the mill to meet his former overseer. The interviewer remains with him until all details of his reemployment are arranged. After he has been interviewed, regardless of whether he is employed or not, a discharge card is made out listing information regarding his service with the armed forces.



An interviewer from the employment office escorts the applicant into the mill for a demonstration of the work she will perform if employed

If he does not return to work in the department in which he was employed prior to entering the Service, the overseer of that department is notified of his discharge and is advised whether he is working in some other department of the mill or for another firm.

If he is rehired, the information entered on his discharge card is sent to his overseer and an induction card is made out for the employment-office files. These veterans are given special attention through the follow-up interviews, and the results of these interviews are entered on his discharge card.

The reduced turnover rate of the Nashua Division, Nashua Mfg. Co., has been actual proof that the induction program will bring results and is practical. Following out the three simple steps of the program establishes the close contact between employee and employer that results in better personnel relations.

SUN TEXTILE PROCESSING OIL . . .

Imparts Greater Strength to Woolen Yarns; Results in Better Spinning and Better Scouring

A Connecticut mill was troubled with breaking threads, uneven scouring, heating of the stock in the bins before reaching the combing-operation. A specialty oil, blended by a nationally known supplier, was being added at the pickers, but did not penetrate sufficiently to give satisfactory lubrication of the fibers in all operations.

The advice of a Sun Engineer was sought, and at his suggestion, an emulsion of two parts water and one part of a Sunotex processing oil was tried.

Performance proved that the new emulsion imparted greater tensile strength to the yarn, produced better spinning, less breakage, and stopped the heating-problem. It was easier to mix, had better "wetting" properties, and scoured out more evenly.

The better manufacturing that resulted in this mill is typical of the results obtained with Sun products in many mills. Sunotex oils penetrate evenly and are good lubricants for wool, rayon, or nylon. For the complete details on Sun processing oils and lubricants for the textile industry, call the Sun Engineer near you. Or write . . .

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SUNOCO **SUN INDUSTRIAL PRODUCTS**

OILS FOR AMERICAN INDUSTRY

WATER-TIGHT FABRICS
Made by Swelling Cotton Fibers

HIGHLIGHTS: *Method gives cotton fabrics new properties—Passage of water resisted by increasing the swelling of fibers in the yarn—Nearly total closure of air space between yarns is possible.*

By CHARLES F. GOLDTHWAIT* and HERBERT O. SMITH*

FABRICS OF SPECIAL CONSTRUCTION have long been used for holding water without the aid of rubber or other water-proof coating. The most common example is linen fire hose used for fire protection in public buildings. Linen has been the accepted material for all such fabrics, and only recently have unlined fire hose and water bags been made successfully from cotton. The Southern Regional Research Laboratory has developed a new idea in finishing cotton yarn for heavy fabrics, and the method should be carefully considered for application to any cloth construction intended to utilize the principle of swelling.

Immediately after our entrance into the war, there was a definite need for the development of a special cotton yarn for making fire hose without the aid of rubber. The supply of linen, practically all of which has to be imported, was expected to be insufficient for making unlined hose for emergency fire protection. At the same time, the rubber shortage made it impossible to use rubber.

* *Southern Regional Research Laboratory, Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Dept. of Agriculture, New Orleans, La.*

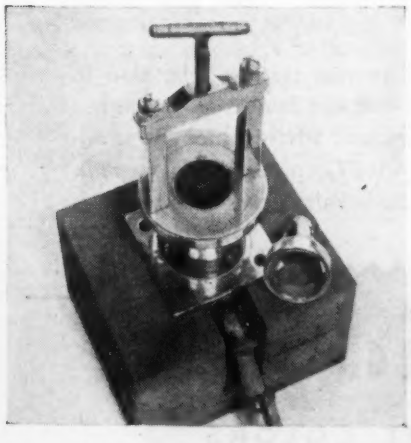


Fig. 1. Test block for applying water pressure to the fabric. Water enters the device through the pipe.

The utility of unlined hose depends upon the swelling capacity of the fibers of its constituent yarns. When water under pressure is transmitted through such hose, there is leakage through the hose wall at first; but the wet fibers swell quickly, fill the interspaces within the fabric wall structure, and make the wall so nearly water-tight that it serves as a very satisfactory fire hose. Special water bags utilize the same principle to hold drinking water, and are intended to allow enough water to seep through to the outside to cool the contents by evaporation. Conversely, suitably constructed linen canvasses, used as tents or tarpaulins, resist leakage from outside by means of swelling so that they readily shed rain water.

SOME LEAKAGE DESIRED. Moderate water leakage is frequently an advantage rather than an objection. It is required in the dispensing water bag, as explained above, while unlined hose has the particular advantage over a rubber-lined hose that the small amount of leakage keeps the outside wet. Hence, it does not burn as readily as the dry fabric on the outside of a lined hose, a point of particular value to the Forest Service in fighting forest fires, and on ships.

Cotton and linen, both natural cellulose fibers, do not have greatly different capacities for swelling. The very great difference in the behavior of the normal materials when made into hose must depend, therefore, largely upon other properties of the fibers and of the yarns or fabrics in the hose structures. Changes in yarn design, and various kinds of processing, were found inadequate to make the available cottons behave like linen in fire hose, and experiments were directed toward adding a supplementary swellable material which can be deposited in an insoluble form on the yarn.

The material which has been most used in the experimental work is a commercial hydroxy ethyl ether of cellulose, soluble in caustic alkali but not soluble in water. It can be readily precipitated on the yarn and will reswell upon wetting. In a test used for estimating the swellability of yarn, a given weight of cotton yarn containing 6 to 7% of the hydroxy ethyl ether of cellulose had the same capacity for stopping the flow of water under pressure through an orifice of fixed size as an equal weight of linen. An equal amount of ordinary cotton yarn would not nearly stop such leakage.

WEAVING TESTS. The most conclusive test of the yarn was weaving. First, small flat pieces of fabric were woven by hand into a structure much like that of a regular fire hose. The best pieces, made from yarn containing the added swellable cellulose ether, did not leak at all when clamped on a test block (Fig. 1 and 2) and submitted to water at 100 lb. pressure in direct contact with the fabric. The fact that some of these fabrics would completely resist the passage of water at 100 lb. pressure is the strongest evidence of the soundness of the idea of using a supplementary swellable material. Finally, short lengths of fire hose were

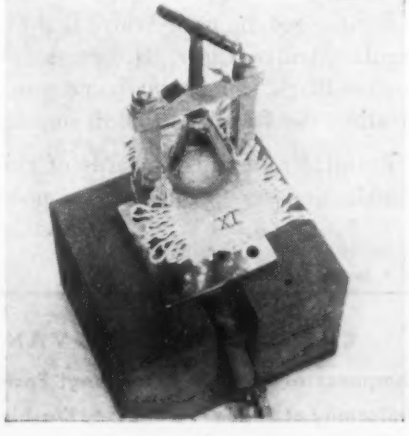
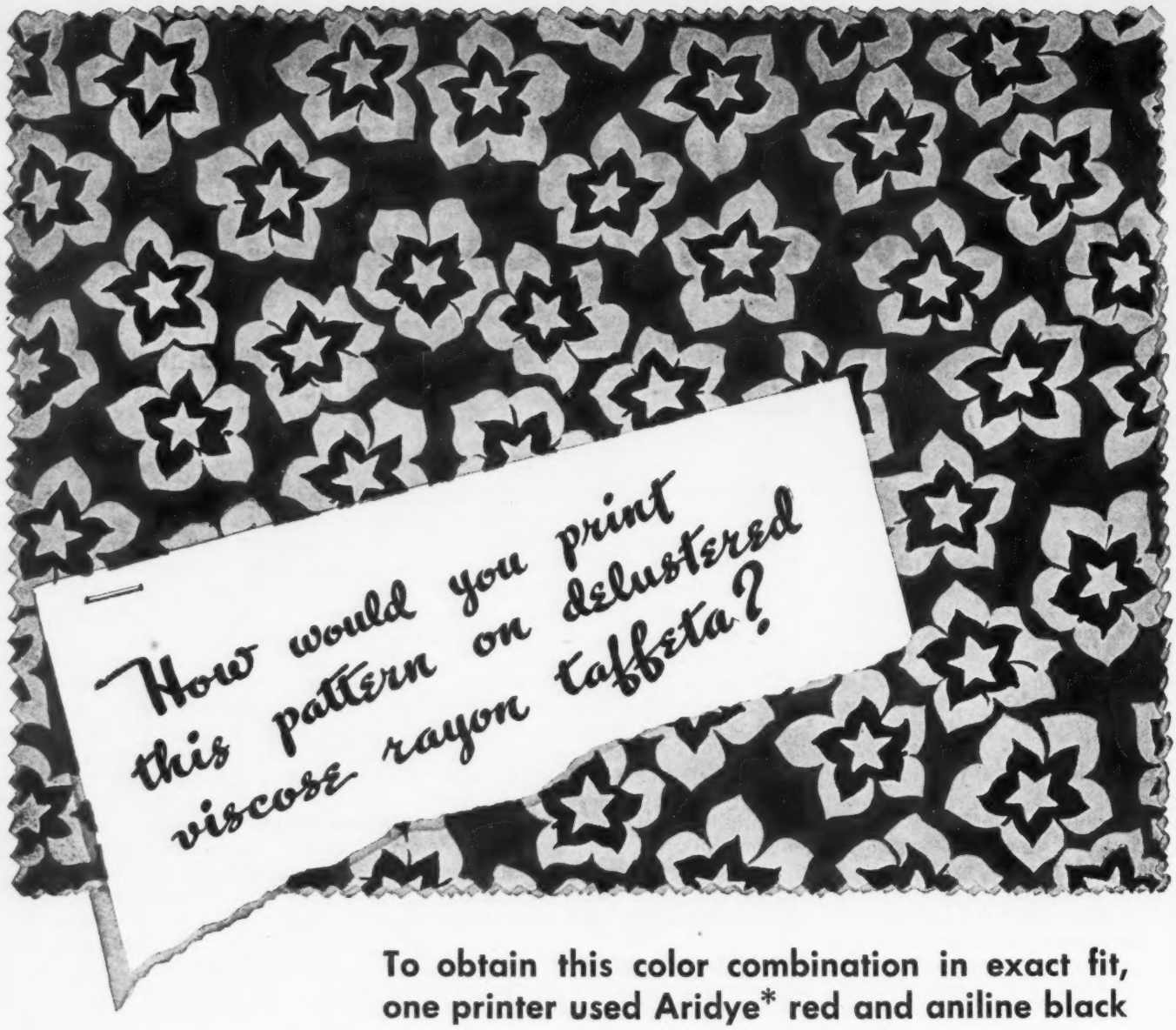


Fig. 2. The fabric is secured in the block so that it will be subjected to the pressure of the water.



To obtain this color combination in exact fit, one printer used Aridye* red and aniline black

A prominent printer, faced with the problem of printing this pattern on delustered viscose rayon taffeta, felt that any conventional method would fail to reproduce the clear red and rich, bloomy black in the exact fit required. He decided, rather, that the best way to obtain this color combination was to use an Aridye pigment red in conjunction with Aniline Black.

For the red, he used Aridye Red FDB, cut 1:3 with regular Aridye Clear. He printed the black with Aniline Black, using a starch and gum thickener. After printing, the fabric was dried, acid aged, and washed.

Result: Thousands of yards of this striking color combination were printed with a smooth, clean appearance and complete lack of feathering. In addition, the printed fabric had a soft, full hand and excellent fastness to washing, dry-cleaning, and perspiration.

This pattern is typical of many that can be printed with Aridye colors, although difficult to produce by conventional methods. For day-in-and-day-out dyeing and printing jobs, too, Aridye colors offer you definite advantages.

An Aridye technical service man will be glad to discuss where and how you can benefit from the use of Aridye pigment colors, and advise which are available today. Write to Aridye Corporation—*pioneers in pigment colors for textiles*—Fair Lawn, New Jersey.

*Reg. U. S. Pat. Off.

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woven from treated yarns on a heavy flat loom, and a small nozzle was fastened at one end. The hoses transmitted water pressure at 55 to 60 lb. without undue leakage.

The shortage in the linen supply for fire hose, expected at the beginning of the war, did not develop to the emergency proportions expected; and large-scale demonstrations of this swelling method have not yet been made. A small amount of additional work is expected to result in further improvements.

OTHER METHODS. The Shirley Institute recently reported a successful unlined hose made from mercerized cotton yarn. When made from 1¼-in. cotton in a suitable construction it is said to withstand the ordinary pressures in service with fire pumps.

The Jeffersonville Quartermaster's Depot has announced a special type of water bag made by treating cotton duck with a resin and a thickener. The bag holds water and allows the evaporation of a small amount which leaks through the fabric to have the desired cooling effect. The performance of this cloth depends upon swelling, similarly to the fire hose discussed above. Also depending upon fiber swelling for their effectiveness are the wind-and-rain-resistant oxfords now being developed in the cotton textile industry.

Since several types of fabric which depend partly upon swelling for their utility have been getting increased attention in the textile industry, a few of the special features which apply to the construction and finishing of such goods will be described. Some phases of the work may also be of interest in developing new packings or caulking materials from cotton to resist the passage of water.

A fire hose or oxford-type fabric is woven in such a manner as to obtain the maximum density in relation to a cross-sectional line represented by the broken line in Fig. 3. The hose must be woven to make this region as well closed as possible without forming a fabric that may become distorted and more open under water pressure. It is probable that the swelling is truly effective only within this rather thin cross-section.

COTTON vs LINEN. Linen yarn, such as commonly used for hose, has several very important characteristics wherein it is quite different from cotton; and it has been necessary to overcome the differences that are unfavorable. Real linen, or line, is made from long fibers which lie closely parallel and tend to pack tightly together. These, when woven, pack well into a hose wall. Cotton does not pack well, and the first great point of difference lies in the amount of air space within the yarn. The air space in linen has been calculated from published data (Matthew, J., Textile Institute *12* (1921) page 471) to be about 35%, while the space in cotton yarn of moderate twist is nearer 70%. The air space is probably reduced when the yarn is woven into a hose, but the space in ordinary cotton is probably not nearly brought down to the same low value as the linen.

Obviously the air space remaining in and between the yarns within the hose wall, to be filled by the swelling of the fibers, must not be greater than the increase in volume to which they can swell. According to the best estimates that could be made from the few comparative data in the literature, a given volume of cotton swells in water by about 42%; linen and ordinary mercerized cotton swells about 46%. While the space in linen yarn might, theoretically, be filled by its swelling, cotton when swollen to its limit by water alone still retains in the neighborhood of 28% air space.

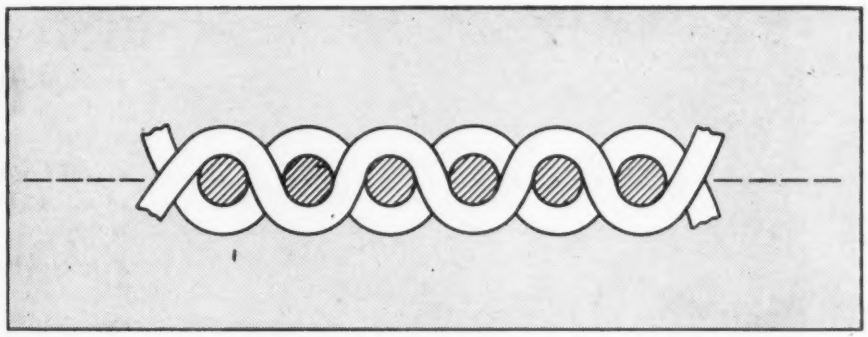


Fig. 3. Diagram of a cross-section of a fire-hose fabric. The broken line represents the theoretical center of the hose wall.

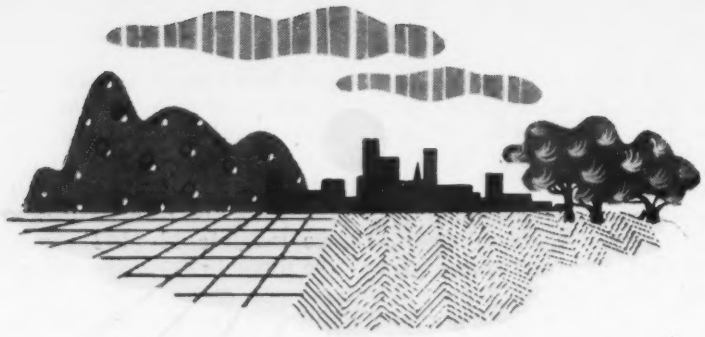
The swelling capacity of a yarn depends greatly upon wetting and penetration. It seems also to involve particularly the forcefulness of swelling as well as the amount, and to be closely connected with yarn twist. Cotton fibers must have a relatively high twist to hold them in yarn form, and it was concluded early in the work that such twist offers resistance to swelling. Low twist favors the swelling of cotton yarn and thus favors closing of the hose wall although it detracts from strength.

RAYON SWELLS. The need for swelling force was very well illustrated by tests on rayon. While rayon would not be suitable for a high pressure hose, it is a highly swellable material and was considered for blending with cotton. Rayon swelled readily by itself, but when used with cotton it did not swell as effectively as expected. This was attributed to its not swelling forcefully enough against restraint by twist. Rayon might, however, supplement cotton in some kind of swellable fabric other than fire hose where cotton would furnish the necessary strength and stability of fabric when wet.

Under the most favorable conditions as indicated by work at the Shirley Institute (F. T. Pierce and W. C. Gardiner patents, British 549,974, Dec. 16, 1942, and U. S. 2,350,696, June 6, 1944), mercerized cotton can be beaten into a hose structure tight enough to close by swelling upon wetting under pressure. This method of treating the yarn is effective because the high tension and the setting by heat during drying make the yarn more compact. Since the mercerization may also make the cotton somewhat more swellable, the final result is a reduction of air space in the critical section of the hose to a point at which the swelling of the cotton can fill it and prevent leakage. Low yarn twist was found to be an advantage.

LOW STRETCH NECESSARY. Fire hose must not stretch excessively under water pressure because increased leakage might result from opening of the fabric structure. Hence, the constituent yarns should be of low elongation and should be woven under such tension that as much as possible of the extensibility will be kept out of the final structure. Linen fibers have low elongation at any tension. Cotton, with a much higher fiber elongation, and with its comparatively high spinning twist, naturally makes a more stretchable yarn.

Representative values for ordinary hose yarns are 3 to 4% elongation at the breaking point for linen and 10 to 11% for cotton. In general, the elongation of cotton yarn can be greatly reduced by stretching and set-



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Saran is Dow's new development for the textile industry, ready to be woven into a variety of useful materials. Particularly for fabrics that lead a strenuous life . . . coverings for luggage, bus seats, porch furniture . . . it offers special advantages:

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Here, perhaps, is the material for some of your fabric futures. We invite you to investigate Saran now.

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★ National Plastics Products Co., Odenton, Md.
★ Visking Corporation, Chicago, Illinois
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DOW
PLASTICS

FLAT-BED HOSIERY
Machines Being Improved

HIGHLIGHTS: *Powell Knitting Co. machines designed in 1878 and built for own use only are being improved again for post-war period — Past improvements include Powell toe, which is knitted complete with no looping, and elastic-top hose, which are knitted in one operation—Mass production of simpler styles in one operation aided by new production-control system and efficient plant layout—Company shop in Philadelphia maintains and improves flat-bed machines.*

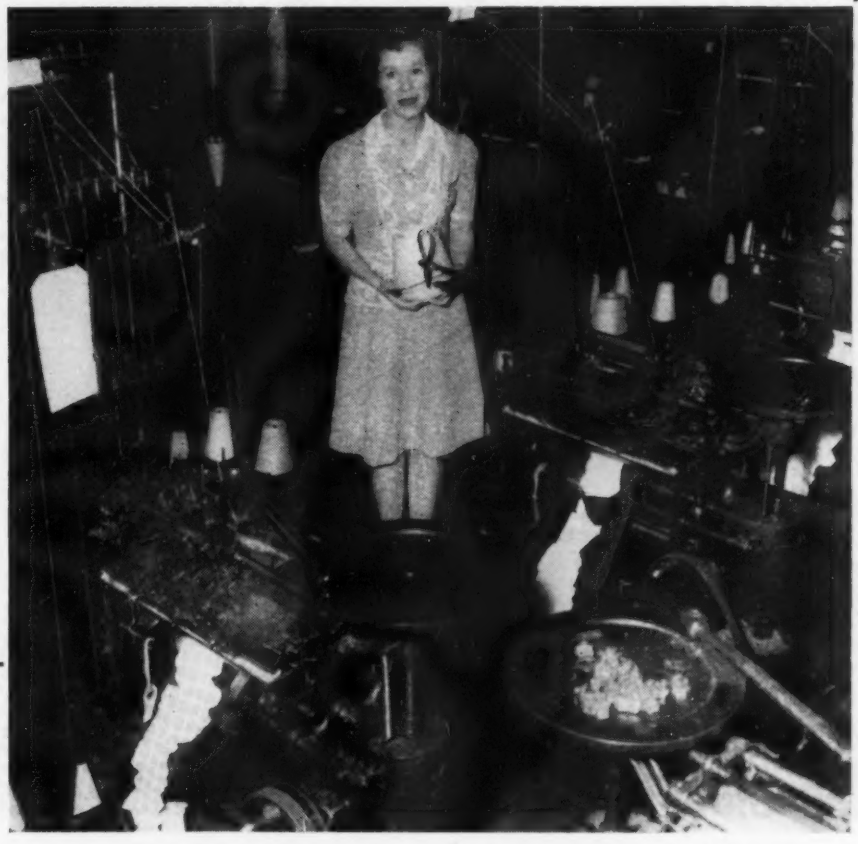


Fig. 1. These machines were originally built in 1878 and were among the first machines to knit seamless hosiery. They have been improved on numerous occasions.

IN THE 67TH YEAR of a record unique in hosiery manufacture, the Powell Knitting Co. of Spartanburg, S. C., and Philadelphia, Pa., has revealed details of its manufacture of seamless hosiery on the flat-bed machine designed and built by the company for its own use. Its program of research and development for the machine is being intensified now for postwar changes which may be more radical than some of the past, such as the Powell toe.

Modern in every respect, with an ample and efficient plant layout as well as attractive houses and village for employees, the Powell company has built its present position upon the original machine models laid down 67 years ago. While some of these facts have been generally known to the knitting trade, none of them have ever been released for publication until the present time.

The machines shown in Fig. 1 have been improved on numerous occasions to meet changing currents of demand. They were designed and built in Phila-

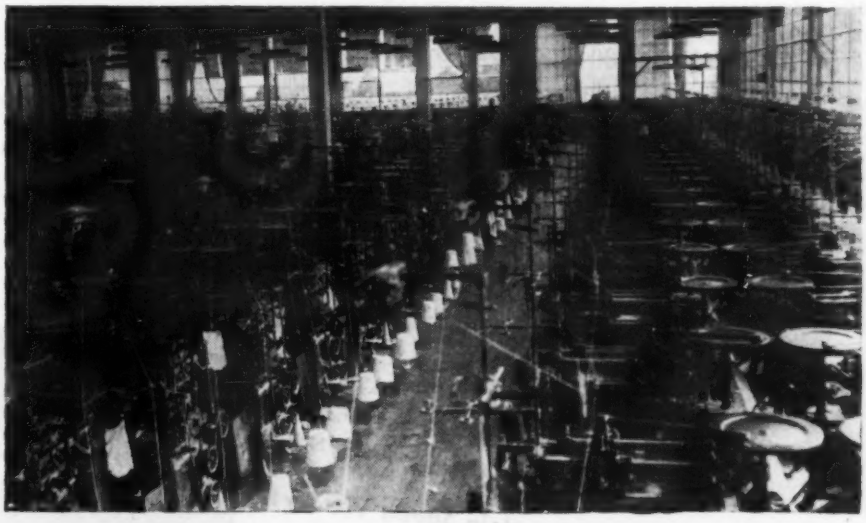
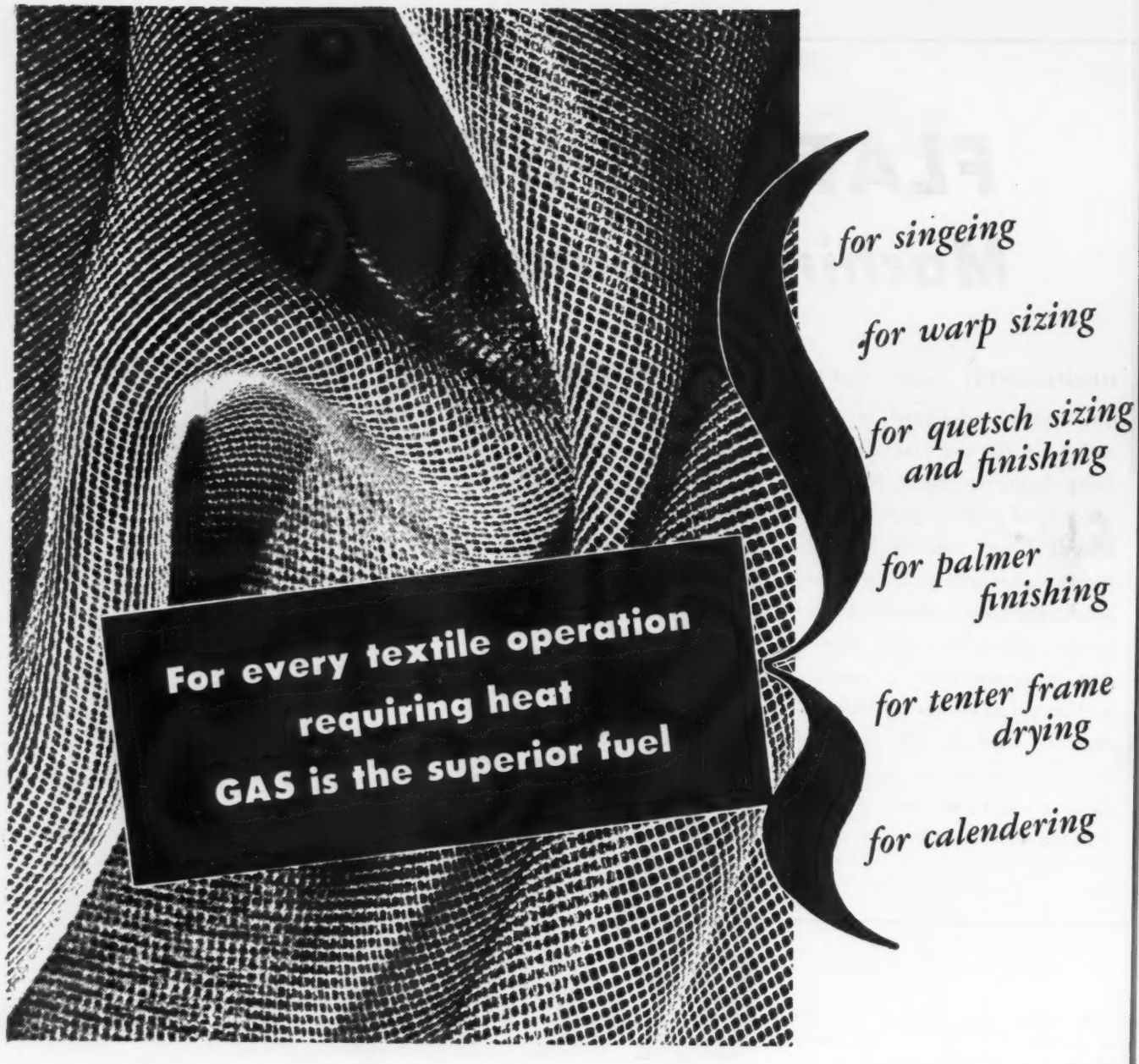


Fig. 4. The elastic-type hose being knitted on these machines are strictly one-operation styles; and around this advcntage, the company has developed layout and flow technics.



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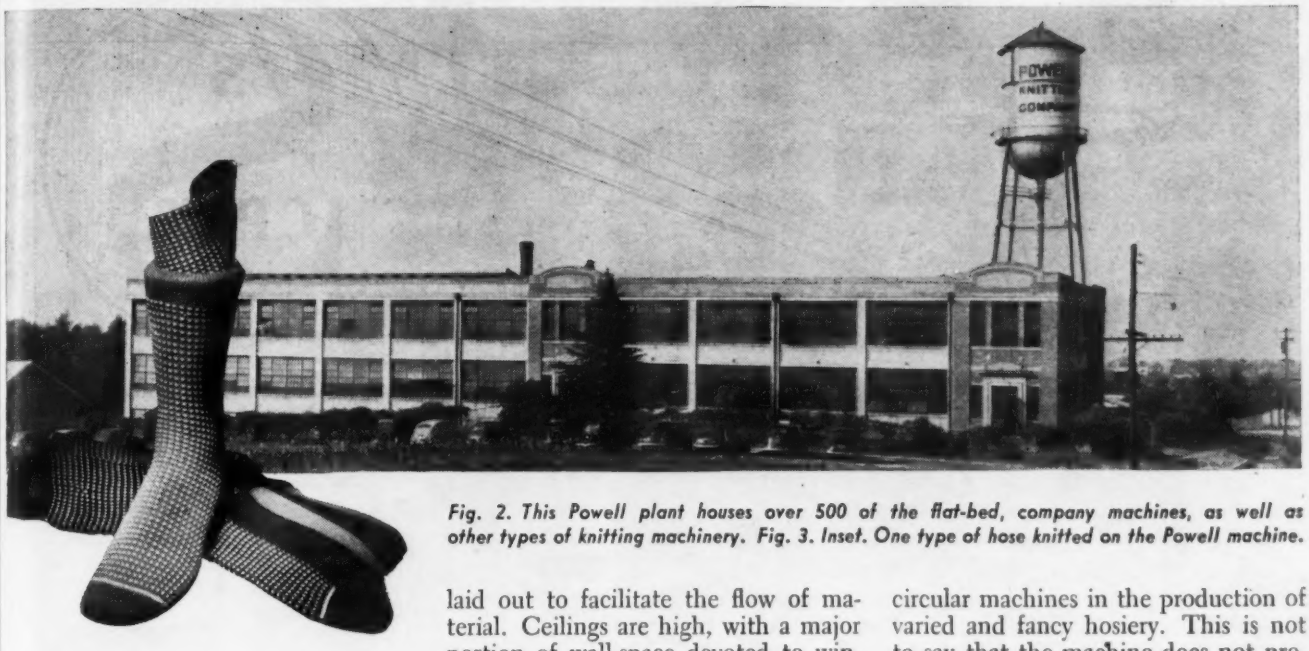

Fig. 2. This Powell plant houses over 500 of the flat-bed, company machines, as well as other types of knitting machinery. Fig. 3. Inset. One type of hose knitted on the Powell machine.

delphia in 1878 by Edward Powell and John Powell, father and uncle of the present president of the company, Ralph C. Powell. The machines are flat-bed with 84, 120, 156, and 200 needles, although the number of needles is adjustable. They are of 12, 24, 30, and 48 gage.

The machines produce seamless hosiery; and in the twenties when other machines were designed to knit a complete half-hose except for ribbed top, the Powell machine had been knitting seamless hose for several years. The feature is the Powell toe which is completed during the knitting process with no looping necessary. The machine does not knit a complete half-hose with ribbed top—the ribbed tops are joined in a later process. With the advantage of the complete toe, the machine has been able to specialize in one-process styles such as athletic hose, anklets, and elastic-top hose. The knitting operation begins at the toe, completes it, and moves upward to knit the balance of the hose.

In production now largely for the Army, the machines usually produce cotton work socks, wool and cotton anklets, woolen half-hose, and other varied types of hosiery. One of these types is shown in Fig. 3.

LAYOUT TECHNICS. Due to the one-operation performance of the machine on the plainer and simpler styles of hose, a mass-production technic has been utilized throughout the plant. It is reflected in the building and construction of the Spartanburg plant, as well as in the equipment layout. From receiving through finishing and packing, the plant is departmentalized and laid out to facilitate the flow of material. Ceilings are high, with a major portion of wall-space devoted to windows for day-time lighting. Fluorescent lights also are installed in most areas of the plant.

Production and manufacturing methods reflect the special consideration given flow of material, and no method is ignored which might assist in this phase of economical operation. For example, systems used for routing material and recording production have received careful study. Recently, a new production-control system was installed to replace one outmoded by changes in production and styles. The feature of this system is the use of a planning board in the office of the superintendent for a visual record of orders in progress and productions scheduled.

The feature of the equipment—outside of the flat-bed machine itself—is the dyehouse machinery which is composed largely of rotary-type dyeing machines of standard stainless-steel construction. These machines are used interchangeably for washing, dyeing, and other finishing operations.

ADVANTAGES OF MACHINE. The Powell company operates over 500 of the flat-bed machines at their Spartanburg plant which years ago was considered the branch of Philadelphia. Plant expansion has almost reversed these positions. Several hundred of the machines are operated at Philadelphia. In addition, the machine shop which reworks and maintains the flat-bed machines is located at Philadelphia. The shop is not a commercial one; it is engaged strictly in company work. A major portion of that work at present is devoted to research for postwar developments.

The flat-bed machine was not designed to compete with the modern circular machines in the production of varied and fancy hosiery. This is not to say that the machine does not produce quality hosiery. It does not, however, have the speed at present to compete with the circular machinery on these styles. But on simpler and plainer hose, which the Powell machine turns out in one operation with no looping, there are distinct advantages in the favor of the Powell machine.

As intimated above, the rate of output of the machine is not large. There are some compensations for this lack of high speed, however, in the relatively simple operation requirements of the machine. It has few extraneous motions and is easily operated and maintained.

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Control of Details Aid TWISTER ROOM Operation

HIGHLIGHTS: *New automatic counter gives better control of yarn lengths — Twist and speed checks indicate needed adjustments — Definite system aids overseer in controlling details of orders, yarn changes, job assignments, and overhauling.*

By HORACE L. PRATT

CLOSE CONTROL of manufacturing details is necessary in successful twister-room operation. The production of plied yarns for duck and other coarse fabrics requires frequent changes in yarn styles on the twister; and the accompanying changes of beams, bobbins, travelers, and gear may produce such problems as incorrect plies and yarn lengths, mixed stock, or overruns, unless proper methods of control are used.

A large number of mills have found that a mechanical counter, Fig. 1, gives better control of yarn length [TEXTILE WORLD, June, page 107]. It is attached to direct motor drives and is an improvement upon the older devices. It is set by hand at the start of a new length; but once set it automatically produces the correct yardage and stops the frame. The use of a yardage counter does not preclude possible error. The counter can be set incorrectly; and in this event, the frame will produce incorrect doffs over and over again. To obviate this error, overseers usually designate an operator to check all counters before the frame is doffed.

Another, though infrequent, source of miscount occurs when frames are operated for special purposes, such as cleaning. This is usually done when the creel is out, and special precautions are necessary at this time to avoid mechanical-counter errors. Side hands and inspectors should be instructed to reset the counter after these special operations. In fact, many mills check it prior to the start-up of a new doff.

Improper lengths may result from other causes. When the twister is changed to a new style of yarn, a thorough check of the travelers should be made. If an incorrect traveler remains on the frame, the doffs produced will run out unevenly at the next process. A light traveler will decrease the number of yards, and a heavy traveler will increase it.

TWIST AND SPEED TESTS. In connection with irregular lengths, the problem of variations from bobbin to bobbin has defied solution thus far. The tests shown in Fig. 2 cover twenty spindles of a tape-driven twister, equipped with 5½-in. rings. The spindles were empty when the speeds were taken, and the speeds varied from 2720 to 2820 r.p.m. If the spindles had been fully loaded, the variations in speed would have been considerably larger.

This variation in spindle speed naturally results in variation of yarn twist, as shown by the test results in Fig. 3. The tests were made on five bobbins of 7/4 warp from the same frame. Standard twist for this yarn is 3.97 t.p.i. The average for the test is very close to standard; yet the bobbins range from 3.94 to 4.12 t.p.i., and individual specimens vary from 3.70 to 4.30 t.p.i.

Such tests do not prove that uniform speed and twist of themselves prevent irregular lengths; but if the tests are followed up by a check to ascertain the cause of extreme variations, they form an effective guide for holding length variation within reasonable limits. Such causes of non-uniform lengths and twists as slack tapes and tapes improperly cut could be eliminated before undue damage has been done. Of course, normal variations are to be expected in speed and twist from bobbin to bobbin because of the nature of the twister drive.

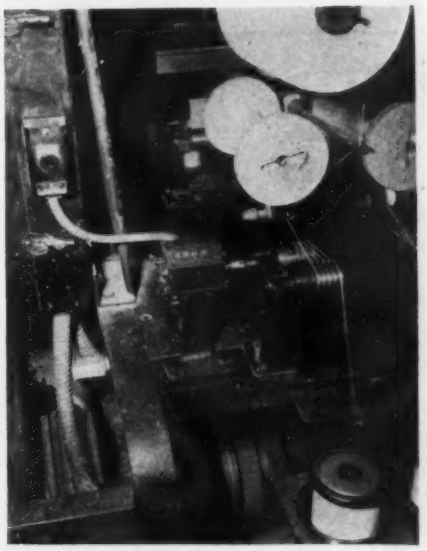

Fig. 1. The automatic counter stops the frame when a predetermined yardage of yarn has been run. Sergeant Studios, Columbia, S. C.

One fundamental rule to observe in twist tests concerns the size of the test bobbin. The amount of twist varies with the size of the bobbin, and for this reason the tester should select bobbins which are half-full. When the bobbin is nearly empty, the amount of twist is lowest; when it is full, the twist is greatest. Common practice, therefore, is to test the bobbin at half-full. It is advisable also to select bobbins

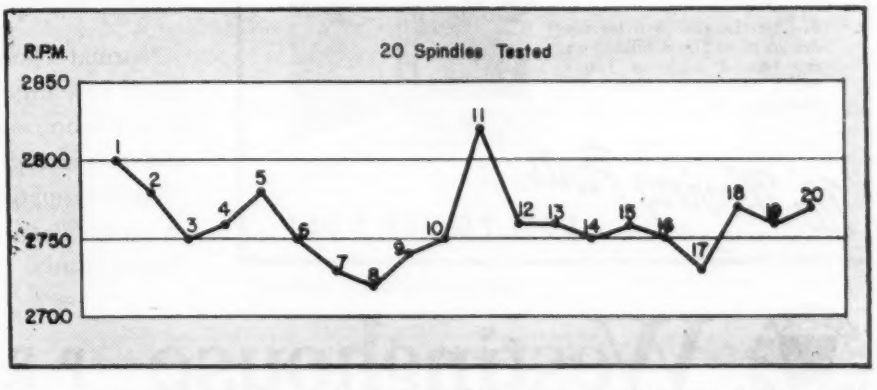

Fig. 2. Speed tests of 20 spindles showed a variation of 100 r.p.m. between the lowest and highest speeds. This variation further complicates the problem of yarn lengths.

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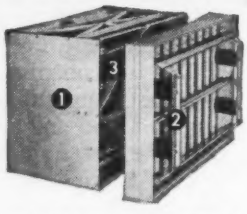
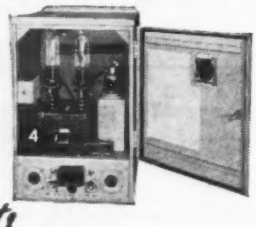


1. A Precipitron cell with ionizer (2) detached to permit a view of the vertical collector plates inside the cell.

2. High-voltage wire creates an electrostatic field at the front of the Precipitron cell, charging all dust and dirt particles as they enter.

3. The charged particles are drawn to and precipitated on the vertical collector plates which are easily cleaned by flushing.

4. The Precipitron power pack charges ionizer (2) and collector plates (3) provides 13,000 volts d-c to set up the electrostatic field and 6,000 volts d-c to the collector plates.



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from the same frame; but in spot-checks for bad practices, such as the slack tape already mentioned, it is preferable to scatter the selection of bobbins over as wide an area as possible. For the ordinary twist test, the minimum number of bobbins should be five; but a larger number will give better results.

OTHER FACTORS TO CONTROL. Proper assignment of jobs and work loads is very important in twister-room operation. It creates better working conditions for the operator and obtains a more stable production from the various jobs in the twister room. Tradition and custom affect work loads to a great extent; but when the duty of job assignments falls to the overseer, he should have a definite system for handling it.

One record which has proved useful in determining job assignments is shown in Fig. 4. It records ply yarns, number of frames or sides operated, ends down, twist in singles, and other special factors of the job load. An assignment on staple yarns seldom changed can be larger than one which contains a wide variety of yarn numbers and styles.

Production orders usually come from the superintendent, but in some cases they may come from the warping, beaming, or winding departments. When the later occurs, the overseer should insist upon written orders and specific instructions as to lengths, twist, number of doffs, and bobbins.

The second hand is held responsible for the status of these orders; and when new orders are received, he should instruct yarn checkers in the proper method of marking the yarn to be used for the order. Style tags on the frame should be made out by the second hand himself. Changes which involve gears and travelers should be left to the section man, but they should be followed up by the second hand. All yarn and pieces from the production order going off the twister should be removed from the frame, and definite instructions should be given the side hand concerning the ply count of the new stock to be run on the twister. Many twister-room overseers insist upon the operator counting the yarn ply once each doff in order to avoid incorrect plies.

Mixed yarn is a major cause of headaches for the overseer of twisting, and it cannot be eliminated entirely. If a proper system of yarn marking is adopted and followed, mixed yarn can be held to a minimum. A method used by one successful mill requires the yarn checker to make out yarn tags before the frame is doffed. These tags are hung upon the frame for inspection by the section man. If correct, they remain there until the frame is doffed; if incorrect, they are replaced by proper tags. Regardless of the method used, strict supervision by the section man, second hand, and occasionally by the overseer himself, will pay dividends in combatting this problem of mixed yarns.

JONES MILLS

Twist of the Plied Yarn

Frame No.	1	1	1	1	1
Ring Diameter (in.)	5½	5½	5½	5½	5½
Thread Style (Warp)	7/4	7/4	7/4	7/4	7/4
	t.p.i.	t.p.i.	t.p.i.	t.p.i.	t.p.i.
	3.85	4.05	4.15	3.90	4.05
	3.75	3.85	4.00	3.85	4.15
	3.85	3.70	4.30	4.20	3.95
	4.05	4.10	4.25	3.95	4.00
	3.95	3.95	4.00	3.95	4.00
	3.90	4.00	4.15	4.00	3.90
	4.10	3.90	3.95	4.15	3.95
	3.90	4.00	4.20	3.85	4.20
	4.15	3.85	4.20	3.95	3.95
	3.95	4.00	4.00	3.85	3.75
1 Total	39.45	39.40	41.20	39.65	39.90
2 Average	3.95	3.94	4.12	3.97	3.99
3 Standard	3.97	3.97	3.97	3.97	3.97
4 % Variation (lines 3 − 2)	.5%	.8%	3.8%	0	.5%
Tolerance (± 6.0%) within	10	10	10	10	10
outside	0	0	0	0	0
5 High	4.15	4.10	4.30	4.15	4.20
6 Low	3.75	3.70	3.95	3.85	3.75
7 Differences	.40	.40	.35	.30	.45
8 % Maximum Variation (lines 7 / 2 x 100	10.1%	10.2%	8.5%	7.6%	11.3%

DATE 6/13/45 Signature

Fig. 3. Ply-twist test reveals bobbin-to-bobbin variations which can result from many causes, such as variation in individual spindle speeds.

SUPPLIES. The policy of the mill concerning supplies will, of course, apply to the twister room. If the mill permits each department to keep its supplies, special consideration should be given travelers. They should not be stored in a place which is exposed to the hot, humid atmosphere of the twister room. A cabinet in the overseer's office, or a separate room, is preferable. Change gears also should be stored efficiently. A rack with pegs to hold the gears is a good device for this type of storage. The number of teeth in the gears can be painted upon the rack for their quick identification.

Because of the diverse methods of overhauling twisters, only very general remarks may be made. In many twister rooms, the overhauler aligns and levels frames, sets spindles, checks builder motions, etc. on a regular schedule. He is also available when a section man needs assistance. Other mills use an overhauling crew. Under this plan, the overhaulers work through the entire mill, beginning with the card room and proceeding through the spinning and twister rooms.

It is necessary to use a schedule and a follow-up check under either of the two systems, and this can be done only when the overseer has a proper record of the activity. The schedule should be written in a notebook by the overseer, and a daily report should be kept of the frame numbers and types of overhauling done. These reports should be signed by the second hand and then posted in the notebook as a check against the schedule.

JONES MILLS

Twister Room Job Assignments

Ply Yarn Styles	t.p.i. Singles	Ends Down Per M Spdl. Hr.	Special Factors	Frames Run

Fig. 4. Records such as this will aid the overseer in handling job assignments if considered with such factors as variety of yarn run by one operator.

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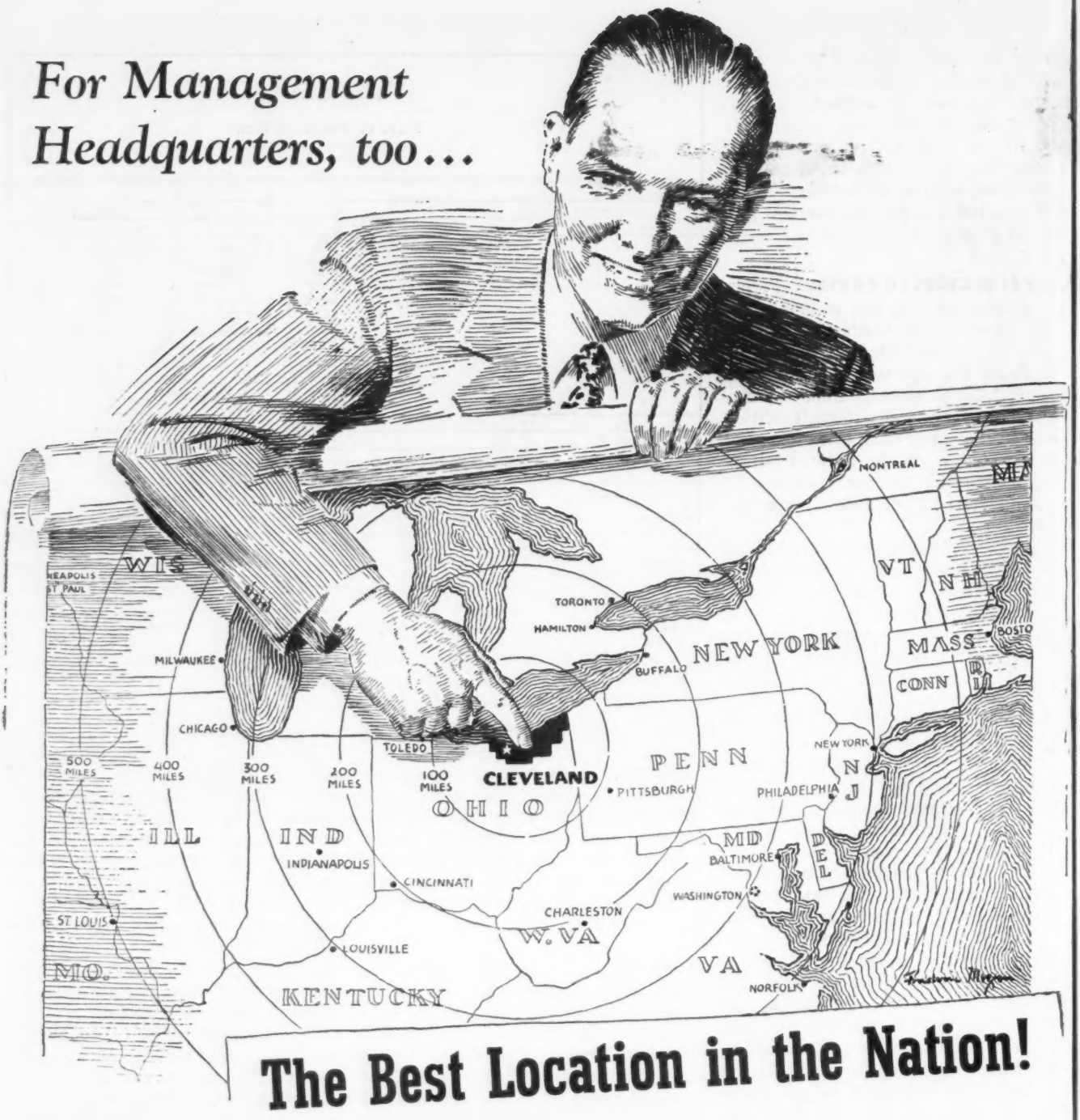

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GLASS BLOCK Reduces Mill-Maintenance Problems

HIGHLIGHTS: *Maintenance trouble encountered with conventional type windows—Average life of old sash was seven years—Glass block panel shows advantages.*

By JAMES W. TAYLOR
Plant Engineer, Ware Shoals Mfg. Co.

THE question of maintenance is ever present in the mind and among the problems of the plant engineer. Any new material of construction or any new use of old material which promises to make plant up-keep easier or more efficient is welcome news in the engineer's department. Especially is this true now during the manpower shortage.

In the Ware Shoals bleachery and dyehouse we have been using steel sash and have made it a practice to keep the sash as well painted as we could under the circumstances. But our enemy, the highly corrosive fumes in these rooms, worked day and night; and against such attack, our defense was weak. About every six or eight years it was necessary to replace the windows.

Wood sash and frames were installed in the weave room. We used white pine or cypress, the best we could get, and we generally counted on replacing them at the end of seven years of service. High humidity, severe condensation due to high humidity, and temperature differences spelled disaster and kept a nasty mess inside around the sills during the cold seasons.

One other maintenance charge we had to make against the windows. We were never able to keep 100% of the window panes in for any appreciable length of time. Deliberate breakage, accidents, horse-play, natural causes —all contributed to keep the glazier constantly on the job.

All these things, and the hope that we had found at least a partial solution of our problem influenced us to put in a section of glass block replacing steel sash in the bleachery, and a section replacing wood frames and sash in the weave room. These have

TABLE I. Outside Temperatures Necessary to Produce Condensation Inside

Inside temperature in degrees F.	Inside Relative humidity	Outside temperature (degrees F) required to produce condensation on inner surface of	
		Glass block	Sash
75°	70%	40°	60°
75°	80%	52°	65°
80°	70%	45°	65°
80°	80%	57°	70°

View of canteen in bleachery. Neat, sanitary construction is obtained by means of glass block.

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For complete information on our ability to serve your operations in the far west—present or contemplated—you are invited to consult our General Offices, or the most conveniently located District Office.

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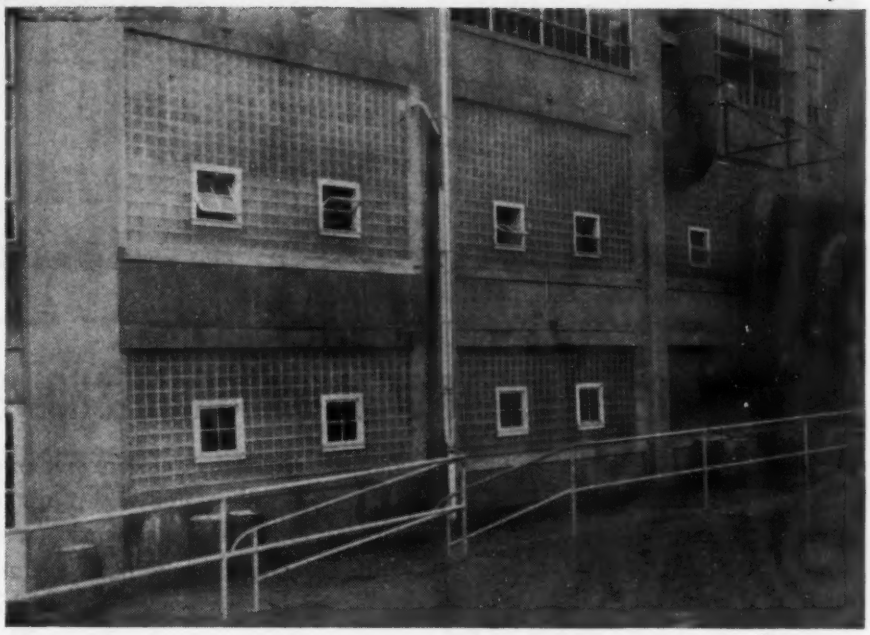
now been in for more than two years and certain advantages are apparent.

PAINT UNNECESSARY. The obvious advantage of the glass block over brick wall is the light transmission. There is also the advantage of insulation, the glass block being a hermetically sealed unit so constructed that there is a better than 50% vacuum space contained between two side walls of glass. On glass used as a wall section, paint is unnecessary. This can be marked up as another point in its favor. It is neat in appearance, easily installed, lends itself readily to alterations when found necessary, and will stand considerable abuse and punishment. Out of 10,000 or more blocks installed, we have had to replace only one block.

In comparison with the conventional type of steel or wood sash, glass block also possesses a certain advan-

(*Continued on page 198*)



Section of bleachery wall in which steel sash has been replaced by glass block. Note wooden ventilators used.

Ten Years of COTTON TEXTILES

The data herewith comprises the 14th annual report assembled by the Association of Cotton Textile Merchants of New York from Bureau of the Census reports and from data obtained from machinery manufacturers. Cloth-production figures for the non-census years (the even years before 1941) have been estimated to correspond with ratio of spindle-hour activity in preceding census year. Cloth production for 1941 and later is WPB estimate.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
EQUIPMENT											
Spindles in place at beginning of year	30,887,512	29,252,344	27,573,770	26,704,476	25,994,676	24,940,204	24,504,490	24,157,306	23,757,844	23,342,922	23,105,942
Increase or decrease from preceding year	48,136	1,635,168	1,678,574	869,294	709,800	1,054,472	435,714	347,184	399,462	414,922	236,980
New installation, additions and replacements	214,874	469,316	772,724	178,280	349,416	414,974	449,848	210,456	7,752	82,736	
OPERATION											
Spindles active at any time during year ending July 31st	26,700,946	24,664,428	25,419,110	24,774,004	23,731,050	23,585,938	23,389,414	23,607,508	23,429,252	23,018,828	
Spindles idle during same period	4,186,766	4,587,916	2,154,660	1,930,472	2,263,626	1,354,266	1,115,076	549,798	328,592	324,094	
Average number of active spindles based on twelve monthly reports	23,417,092	23,380,943	24,079,455	22,039,179	22,317,552	22,410,966	22,955,205	23,051,400	22,744,106	22,332,332	
Intermittent spindles (being the difference between average active spindles and those active at some time during year)	3,283,854	1,283,485	1,339,655	2,734,825	1,413,498	1,174,972	434,249	556,108	685,146	686,496	
Percentage relation of average active spindles to spindles in place	75.81%	79.93%	87.33%	82.53%	85.85%	89.86%	93.68%	95.42%	95.73%	95.67%	
Spindle hours run	76,010,027,000	91,766,908,000	95,409,267,000	76,252,297,000	92,570,738,000	98,279,419,000	121,968,582,000	133,536,052,000	125,413,065,000	114,842,725,000	
Hours run per average active spindle	3,246	3,925	3,962	3,460	4,148	4,385	5,313	5,793	5,514	5,142	
MARKET											
Production in square yards	7,135,276,000	8,614,160,000	9,445,914,000	7,548,977,000	9,044,979,000	9,601,899,000	11,327,903,000	12,402,161,000	11,647,738,000	10,666,018,000	
Exports in square yards	186,565,000	200,501,000	236,251,000	319,634,000	367,466,000	357,925,000	586,739,000	447,850,000	538,462,000	* 700,000,000	
Imports in square yards	63,674,000	114,195,000	147,320,000	58,282,000	111,817,000	84,344,000	61,148,000	17,643,000	19,764,000	* 20,000,000	
Available for domestic consumption	7,012,385,000	8,527,854,000	9,356,983,000	7,287,625,000	8,789,330,000	9,328,318,000	10,802,312,000	11,971,954,000	11,129,040,000	9,986,018,000	
Population at July 1st	127,521,000	128,429,000	129,257,000	130,215,000	131,200,000	131,970,000	133,203,000	134,665,000	136,497,000	138,101,000	
Available for per capita consumption in square yards	54.99	66.40	72.39	55.97	67.00	70.68	81.10	88.90	81.53	72.31	

[1] Revised to final estimates where possible

* Partly Estimated

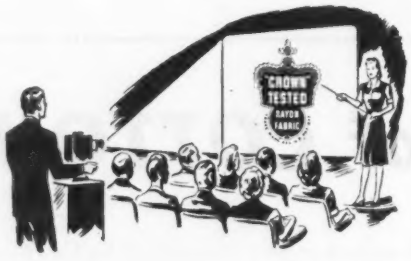
RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. JULY, 194

RETAIL GROUP EDUCATIONAL PROGRAM SHOWS RAPID GROWTH

An educational program for retail groups, started last fall as an experiment by the American Viscose Corporation, has already grown to the point where at least one and frequently two meetings are held each week.

The program covers all the basic information about rayon that should be of interest and value to retailers. Rayon terms are defined. The various processes for manufacturing are explained with slides, and viscose, acetate and spun rayon fabrics are shown. The basic yarn spinning systems and the blending of rayon staple with other fibers are discussed. The effects that can be obtained by spinning rayon on the different spinning systems are illustrated with finished fabrics. Fabric developments of viscose, acetate, viscose and acetate plies, spun rayon, blends and combinations of fibers are also shown. The



program draws to a close with a discussion of the CROWN Tested Plan, and a demonstration of the need for and value of this scientific informative labeling.

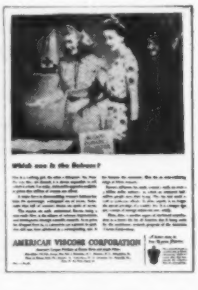
NEW BOOKLET ON TEXTILE RESEARCH DEPARTMENT ISSUED

The American Viscose Corporation has prepared a new booklet describing and illustrating the work done by its Textile Research Department at Marcus Hook, Pa. The Department was established in 1939 to provide facilities for studying rayon textile production.

The booklet describes the operation of the Department's six divisions, which cover spinning on the cotton, woolen and worsted systems, warping and weaving, knitting, and dyeing and finishing.

Because so many phases of the textile industry are incorporated in this one Department, it was felt that visitors would welcome this concise description of what they have seen. Although the booklet is, therefore, primarily for visitors to the Textile Research Department, a copy may be obtained by writing the American Viscose Corporation, 350 Fifth Avenue, New York 1.

A.V.C. AD TELLS OF RAYON'S INFLUENCE ON GARMENT INDUSTRY



In a current advertisement in its Public Relations Series, the American Viscose Corporation tells how rayon has made fashionable apparel available at prices that millions of women can afford... how rayon's influence has made women's ready-to-wear a 3 billion dollar industry. The advertisement appears in *Time, New Yorker, Business Week* and *U. S. News.*

FLAMMABILITY OF CONSUMER TEXTILES SUBJECT OF A.A.T.T. TALK

In a talk delivered before the American Association of Textile Technologists, a spokesman for the American Viscose Corporation held that flammability of textile fabrics is not necessarily due to the kind of fiber from which the fabric is made. More important, he stated, is the construction of the fabric, and whether the fibers used are brushed out or are in the form of a long pile.

When fibers such as cotton, rayon, linen or ramie are made into compact cloth with few or no fine fibers protruding from the surface, they are not readily flammable, the speaker pointed out. When, however, such fibers are in a finely divided state and permit the ready access of air, they are quite flammable.

Flammability may also be caused by applying glazed finishes and stiffening agents like Pyroxylin, he said.

"Any legislation (to curb the sale of flammable fabrics) must necessarily be implemented by an accepted standard test method applicable to any fabric," the spokesman stated. A special committee of the American Association of Textile Chemists and Colorists has been named to devise a suitable test method, he stated.

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Correct DEPRECIATION RATES Will Help Postwar Success

HIGHLIGHTS: *General - average basis for charging off depreciation has many pit-falls. Mills should use their own experience figures to save on taxes and avoid falsely low costs. Obsolescence due to technological improvement must be watched. Ways to increase depreciation rate.*

By FRED MERISH

NO ONE KNOWS just when the war with the Japs will end, but with the fall of Germany, we do know that the postwar period is drawing nearer with the months. Many plans have already been laid so that when the final "all-clear" is sounded, the businessman will have some sort of a program to put into operation immediately. The textile mill owner is no exception. He must start thinking of postwar operations NOW, and also take steps to adjust his present operating system so that he can bridge the period from war to postwar to best advantage. One important factor in his operations is depreciation, and he must consider certain phases of it in relation to postwar operations, not when the postwar period arrives—but NOW.

Even in peacetime, depreciation has been a troublesome problem. The fact that it is, at best, an estimate, plus the fact that users of depreciable assets have based their estimates on general averages, has created the confusion. The Treasury Department reports that depreciation gives them more trouble than any other business transaction. Either a taxpayer takes too much, too little, or none at all.

GENERAL AVERAGES. How have textile-mill owners been computing their depreciation charge-offs? On the basis of general averages determined by years of use. But depreciation is not entirely a matter of age. It is caused partly by wear and tear, which differs with the user; consequently, users of depreciable assets often get themselves into a bad hole because their computation is off-center. For example, machinery working at full capacity will depreciate about twice as fast as machinery working at 50% capacity, other things being equal; consequently, depreciation should be higher on the former. The wide divergence in the use of equipment explains why it is difficult to get definite data on depreciation, even from equipment manufacturers. Tax books will tell you that machinery depreciates from 2 to 20% yearly. That is pretty indefinite for accurate computation—and if the computation is below actual depreciation, you lose tax-dollars and you cost your sales too low.

The Treasury Department publishes Bulletin "F" giving the average life-span of many depreciables from apple trees to ferris-wheels and preshrinking machines, but it cautions that their listings are not prescribed for use in any particular case. They are offered solely as guides and starting points from which correct rates may be determined. You must use better than general-average figures when appraising depreciation of fixed assets these days—but where will you get a yardstick?

EXPERIENCE FIGURES. In a letter, the Treasury Department advises that "you should base your deduction for depreciation upon your own experience." Here you have an authoritative yardstick. Many textile mill owners have lost money in the past by using average figures when their own experience figures disclosed higher wear and tear. We have known cases where average figures were as much as 30% above or below actual life. Most textile mill owners have been in business long enough to have acquired experience figures on depreciable assets. Determine your estimates on this factual basis.

These calculations may create the question of what to do if no depreciation or inadequate depreciation has been taken in prior years. Check the unrecovered cost on your books against its reasonable value and enter the difference as a credit to a reserve for de-

(Continued on page 180)

▶ **THINKING AND PLANNING** now for postwar operations gives a manufacturer time to take steps which may be vital to bridge the gap between war and peace. As the author of the adjoining article points out, depreciation rates on equipment and structures are variously handled by accounting departments but should be set at fully adequate percentages if savings in taxes and adequate cost figures are to be reached.

One basis often accepted by some managements is a general average determined by years of use in the industry; another is the mill's own experience figures, which is a practice approved by the Treasury Department and likely to be superior to general averages.

If a mill desires to increase its depreciation rate, Mr. Merish points out three ways to do so:

1. Accelerated depreciation due to more hours of operation per year.
2. Compensation for previous under-estimating of wear and tear.
3. Allowance for obsolescence through changes in styles or advances in technology.

Companies which may not have given deep consideration to their depreciation rates may well do so at present and so put themselves in better position financially to modernize in the postwar period.

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MACHINE-PICKED COTTON Shows Steady Improvement

By E. H. HELLIWELL

Fig. 1. A new type of upland picker harvesting undefoliated cotton. Trash and leaf in the picked cotton can be reduced by defoliation.

Stan Lewis, Clemson, S. C.

HIGHLIGHTS: *Cleaning and drying at gin raises grade of machine-picked cotton—Defoliation reduces trash and leaf—Mill may save 3 to 5c per lb.—Present machine-picking cost estimated at $5 to $6 per bale.*

REPORTED TESTS of the upland cotton-picker during last-fall's picking at Springfield, S. C., indicate that some loss in grade from machine picking may be regained at the gin by proper cleaning and drying methods. Cotton-mill men are interested in these tests because they may affect the future quality and price of cotton deliveries, and the mill will be vitally concerned when the tests have been given a thorough recheck over as wide an area as possible.

Consistent progress is evidenced in improvement of both the grade and staple of all machine-picked cotton. Earlier results have shown that hand-picked cotton was classed as Middling and Strict Middling when the same machine-picked cotton was classed as low as Good Ordinary and Strict Good Ordinary, with a loss in staple length up to $\frac{1}{16}$ in. With the improved types of pickers now in use, machine-picked cotton will vary from one to two grades lower than hand-picked cotton. Of course, the Springfield test, if proved practical for general application, may alter this.

The cotton-mill executive has always been interested in the development of mechanical cotton-pickers, and during the last ten years he has read of this development step by step in the pages of TEXTILE WORLD. Some of the articles written during that decade expressed great hopes for the pickers, while others indicated some apprehension for the quality of the cotton so harvested.

These hopes and apprehensions were upset by the general economic conditions which followed the introduction of the first practical pickers. The price of cotton dropped below 10¢ per lb. Restricted acreage and price-pegging offered a temporary type of prosperity to the grower; but the general uncertainties of the period were such as to curtail the manufacture and purchase of mechanical cotton-pickers, and the present war requirements have further restricted the manufacture of specialized machinery for agriculture.

Comparison of Machine-Picked and Hand-Picked Cotton in 20s to 60s Warp Yarns

Machine-Picked		Hand-Picked
Strict Low Middling and Low Middling Defoliated	Grade	Middling Undefoliated
B	Yarn Appearance	B+
−0.7%	Yarn Strength	—
−0.5%	Mean Fiber Length	—
+2.1%	Opener and Picker Waste	—
+0.6%	Card Waste	—

NOTE—Waste increases are not excessive when the difference in grades of cotton is considered. Yarn from hand-picked cotton was taken as standard from which percentages in machine-picked column were figured.

Fig. 2. A summary of tests, made on machine-picked and hand-picked cotton, shows an increase in waste and a loss in yarn appearance on the part of the machine-picked cotton. There was a difference of about 1½ grades in the cottons used for the tests.

TYPES OF PICKERS. The need for a mechanical picker is no recent discovery. The first United States patent for a cotton-picker was granted almost 100 years ago. Many more have since been granted on such varied types as the thresher, pneumatic, picker, blast, electrostatic, and stripper. Only five or six have stood the test of actual operation, and the most successful of these are based on the principle of rotating spindles, moistened or barbed, which engage the open bolls and twist the cotton out of them.

The facilities of agricultural colleges and experiment stations throughout the South have proved invaluable in the development of test data for the various cotton-pickers. They have tackled the problems of mechanical picking from two angles. First, they have studied methods which would adjust the picker to the crops as now grown; and second, they have advised selection of seeds from varieties of cotton which are more adaptable to the mechanical-picker method.

There are indications that efforts toward mechanical picking will be redoubled after the war. One factor which will stimulate increased interest is the gradual reduction in price differential between synthetic and cotton fibers. Progressive cotton farmers are convinced that the mechanization of all cotton-crop methods must be accomplished. Machines are now available for planting, cultivating, and pick-

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TYPICAL TESTS OF ORONITE WETTING AGENT

Content by Weight:	
Sodium sulfonate (by difference)	67.50%
Water by distillation	32.00
Sodium sulphate	0.40
Water insoluble	0.03
ASTM Color (of 5% solution in distilled water)	1½
pH (of 1% solution in distilled water)	7
Wetting Time (0.5% solution with cotton duck), seconds	18

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ing cotton; and the future will likely see them being more widely used by the cotton farmer. The present labor shortage and its possible continuance into the postwar period may also spur these efforts to apply mechanical aids to the farmer.

DEFOLIATION HELPS. Early attempts to machine pick cotton resulted in collection of a large amount of trash and leaf. Modern defoliation prevents their inclusion now. A tractor or airplane is used to apply the defoliation powder to the plant when the bolls are mature. This treatment kills the leaves in six days, they fall to the ground, and their entry into the cotton hopper is thus prevented. Defoliation also removes possible causes of stain and mildew created by the presence of the moist, green vegetation in the form of the cotton leaves. The powder has no apparent effect on the appearance, length, or strength of the cotton staple.

Early tests also showed that the color of machine-picked cotton is considerably below the Middling box. It often appears as a bluish gray but clears up well in actual mill-processing. The insertion of twist in the spinning operation emphasizes the dark color, however, and this off-color would prove objectionable in goods to be delivered in the gray. It is doubtful if the most careful selection of bales, mixes, or blends would guarantee a uniform color in successive production orders; and bleached or dyed goods would probably show streaks in the finished cloth.

Expert cotton buyers and farmers state that the darker color is not due to defoliation or to mechanical picking. They have examined such cotton and have stated that the darker color is due to other causes, such as the presence of leaf particles or the long exposure of the open boll to the weather.

If the cause of this off-color is correctly diagnosed by the cotton experts, then proper use of the mechanical picker would eliminate it. The pickers shown in Fig. 1 and 3 cover 8 to 10 acres per day; and such rapid picking certainly should permit the farmer to pick the cotton when it matures. Deterioration from weather should be avoided, and thus the use of a cotton picker may in time enhance the appearance and value of the staple. This advantage is not possible at all times with the hand-picking method because of labor shortages and the slowness of the operation.

COST AND QUALITY. There are two matters of prime importance to the mill man when he considers machine-picked cotton. First, he would like to know what possible savings will be passed along to the manufacturer from the use of the mechanical cotton-picker. Expectations, based on certain types of machine-picked cotton offered by brokers, range from 3 to 5¢ per lb. for the equivalent of Strict Low Middling and Low Middling grades. Some lower grades, such as Strict Good Ordinary, are expected to give greater savings to manufacturers of certain classes of goods.

It is hardly credible at the present time that estimates of ten years ago predicted that the mechanical picker would reduce the cost of cotton harvesting from $10 per bale for hand picking to $5 per bale for machine-picking. The present cost of hand picking in some sections ranges as high as $50 per bale. A fair average would be about $40 per bale. Thus, hand picking is the most costly operation in cotton farming, and it represents a large part of the total cost of cotton delivered to the mill.

The present cost of machine picking cotton ranges from $5 to $6 per bale. This cost includes labor, gasoline, maintenance, replacement, depreciation, and interest on investment. It is estimated that the improved picker, with one relatively unskilled operator, will do the work of 40 field workers.

Cotton men familiar with conditions on the more modern farms state that the trend of all machine-picked cotton is toward better grades. They identify several factors behind this trend, such as the improved designs of cotton pickers, the selection of plant varieties, better control of defoliation, cleaning before ginning, and prompt picking of mature cotton before exposure to weather. When these influences finally bring the grade of machine-picked cotton to a par with hand-picked cotton, the law of supply and demand is expected to dictate the prices.

COMPARATIVE TESTS. Another important question asked by the mill man concerns the affect of machine-picked cotton on mill waste, production, and quality. The most convincing answer to this question can be obtained from an actual test in the mill itself. Lacking information from such tests in their own plant, mills may be guided by results which have been obtained in other plants or in experiment stations.

A general summary of many tests made on a range of yarn counts from 20s to 60s warp is shown in Fig. 2.

The increase in picker waste is no more than could be expected in a comparison of grades 1½ points apart. In addition, the tests showed that the increase was mainly due to cellar, or invisible, losses. Further tests of undefoliated and defoliated machine-picked cotton showed savings in opener, picker, and card wastes of 2% in favor of the defoliated cotton.

Fig. 3. The cotton basket is lifted by two hydraulic cylinders, and the cotton is dumped into a truck.

Stan Lewis, Clemson, S. C.

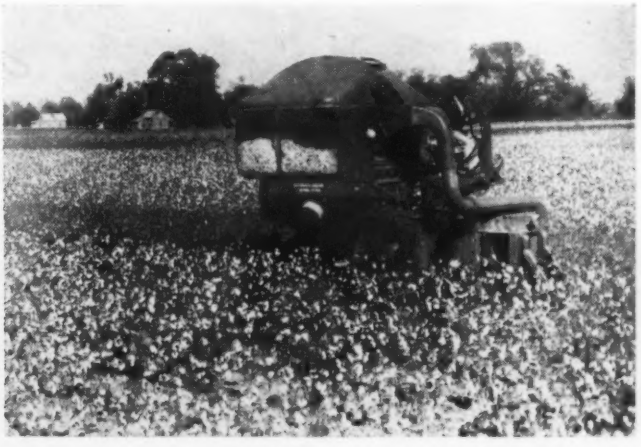

Fig. 4. A cotton picker moves under is own power, leaving plant foliage almost intact.

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Specifications and Care Determine REED LIFE

HIGHLIGHTS: *Service of reeds can be almost indefinite — Depths should be kept to a minimum and wire size to a maximum allowable — Soldering and springs are of prime importance — Proper mounting in loom will prevent excessive breakage and shuttle wear.*

By H. MOCHRIE

The reed-repair man needs a definite place to work and many special tools

THE LIFE of a well made pitch-band or all-metal reed is indefinite, depending wholly upon its care, maintenance, and abuse in the loom. Reeds are known to be still running on heavy-sley acetate fabrics with the manufacture date of these reeds going back previous to the last war. Although this is a most notable record, there are numerous reasons why thousands of reeds purchased now will stand up only for several months.

With the advent of high-speed looms, the mortality rate of reeds has increased greatly because of poor construction of the reeds and other faults. The depth of reeds used in these looms should be kept at a minimum, but not so low that it will interfere with high production. A depth of $2\frac{3}{8}$ to $2\frac{7}{8}$ in. between springs has been found suitable in most instances. This lesser depth insures a sturdier, more rugged reed and minimizes the reed marks and warp streaks that deeper reeds produce. Also, when the reeds are taken out of the looms, to be used at a later date, the narrower-depth reeds have only to be touched up a little before they are ready for use again; also the original cost is considerably lower.

The reed-makers old dent-wire selection formula of 45% wire and 55% space in constructing reeds has been found unsuccessful and a major reason in causing broken dents. The dent-wire tolerance would frequently descend too low and the resulting wire-to-space ratio would drop to 42% wire and 58% space which, of course, weakens the reed considerably. Reed makers should use slightly heavier dent wire and keep the wire-to-space ratio close to 50-50, particularly with reeds over 40 dents per inch.

Many mill men, thinking the change would tend to lower production by not allowing knots to go through so readily, would hesitate to sacrifice this extra space; but there are some mills successfully weaving high-sley acetate fabrics with the heavier dent wire reeds. Reeds can be ordered with dent-wire size specifications for particular fabric requirements; for example, a 50 dent-per-inch reed with a 0.010-in.-dent wire results in a wire-to-space ratio of 50% and 50% ($0.010 \times 50 = 0.5$ in. or 50%).

ITEMS TO CHECK. There are several important things to look for in a well made all-metal reed. The first is the solder job. By looking at the springs the full length of the reed, this can be quickly determined. If the springs have air spaces or sections where the solder did not take, these reeds are imperfect and will not stand up. They should be returned to the reed maker for correction.

The reflectance of the reed should be uniform without any streaks or shiny places when looking at the reed from an angular side view; this helps to determine the grade of wire in the reed. Frequently, the shiny sections are found to have rough, sharp-edged dents.

The reed straightness can easily be seen by standing the reed on end and looking at it from the side. It should neither bow in nor out, nor have any noticeable kinks.

The dent-edge smoothness is very important, because rough- or sharp-surfaced reeds will cause tremendous shuttle-wear and eventually cause many other difficulties. By running

After a big one?

Size counts, too, in sports shirts—particularly those of "heirloom" variety whose age lends a definite enchantment. But size *and* antiquity are seldom found in woolen garments unless they have been treated with LANASET*

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Lanaset
FOR WOOL SHRINKAGE CONTROL THAT LETS THE WOOL BREATHE

*LANASET is American Cyanamid Company's trade-mark covering its melamine resin for controlling wool shrinkage. The process under which it is applied is covered by United States re-issue Patent No. 22,566.

the tip of the finger nails gently back and forth across the reed dents in a direction perpendicular to the dents, the smoothness of the dents can be easily determined. If the dents feel rough and sharp and wear the finger nails down, the reed is sharp and should not be put into the loom in that condition. Reed are now being belt-polished across the dent edges so that they are plate-glass smooth—they should feel that way when using the finger-nail test.

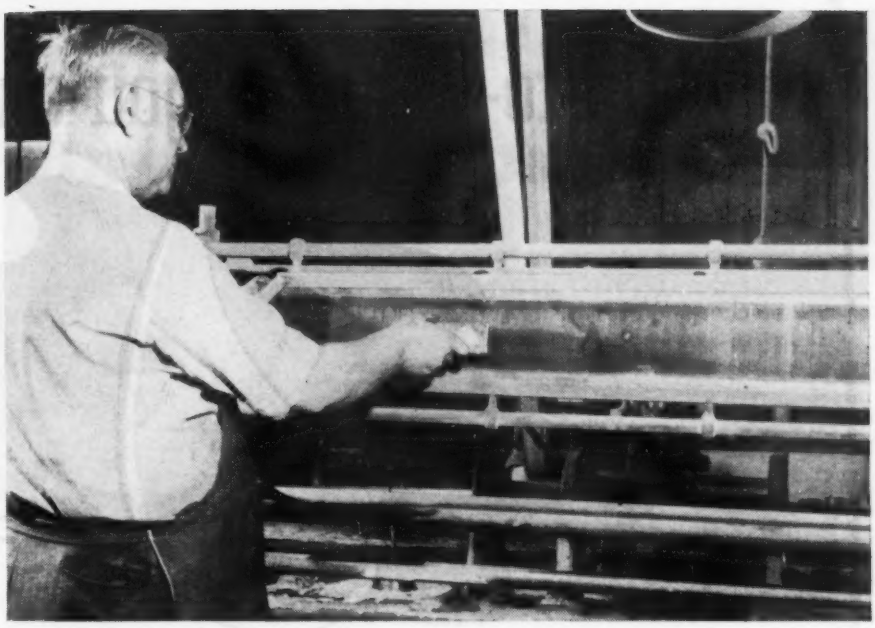
REED ENDS. Very important parts of a reed, which very seldom attract any attention, are the reed ends. The most common sizes are ½ in., ⅝in., and ¼ in. The size to be used is customarily determined by the loom and fabric widths. Most better reeds are made with the ½-in. ends and should be riveted top and bottom to insure the end from being eventually knocked off the reed through the punishment and abuse it usually takes from the shuttle and from the rail being pounded down on it. The reed ends should always be at least 0.002 in. less in thickness than the reed dents. The burrs left from the number stampings should always be ground off, otherwise these sharp burrs can cause excessive shuttle wear.

It is commonly said that a reed is only as strong as the frame around its dents. This is not entirely true, but is a major basic factor in well made reeds.

Most larger rayon weaving mills can find so much work and their reed repair costs are so high that they find it profitable to employ an experienced reed-repair man to do that work in the mill. When different styles run out and the reeds are taken out of the looms—if the help situation and time permit—it is a good idea to clean them, repair them, and finally cover them with a thin film of rust-preventive oil before storing. The best method for cleaning reeds of rust and dirt involves rubbing a kerosene-soaked pumice stone parallel to the dents and then brushing out the reed with a quick-drying solvent which dissolves the gummy size residues on the reed.

There are automatic reed-brushing machines on the market which provide the fastest method and give the best results. A rotary hair brush can also be used. It has been almost impossible to purchase pumice stones, but a fair substitute can be found in rubber-abrasive stones that are frequently used to clean reeds in the looms.

A quick way to touch up reeds is to use a hardwood stick about ½-in. wide and $\frac{3}{32}$-in. thick. Draw this stick lightly across the dents near the springs toward the center; then stop and start the same procedure from the other end of the reed. This method, used by reed makers, causes the dents to bow and meet in the exact center of the reed. Any irregularities in the spaces that this "sticking" does not take out can be removed by the use of flat, pointed brass finishing tools.



Clean reeds whenever they are taken out of the loom, if possible. They should then be repaired and protected.

Before used reeds are again drawn onto warps and put into looms, they should be cleaned and inspected for any irregularities. A light film of oil on the reeds will safeguard them from picking up perspiration acid through handling. Reeds with stainless-steel dents are highly recommended to be used on acetate fabrics.

ALIGNING IN LOOM. When reeds are placed in the looms and readied for weaving, a long straight-edge should be used. It should be several inches longer than the reed and should touch three or four inches of each shuttle box to enable reed and back box plates to be more truly aligned.

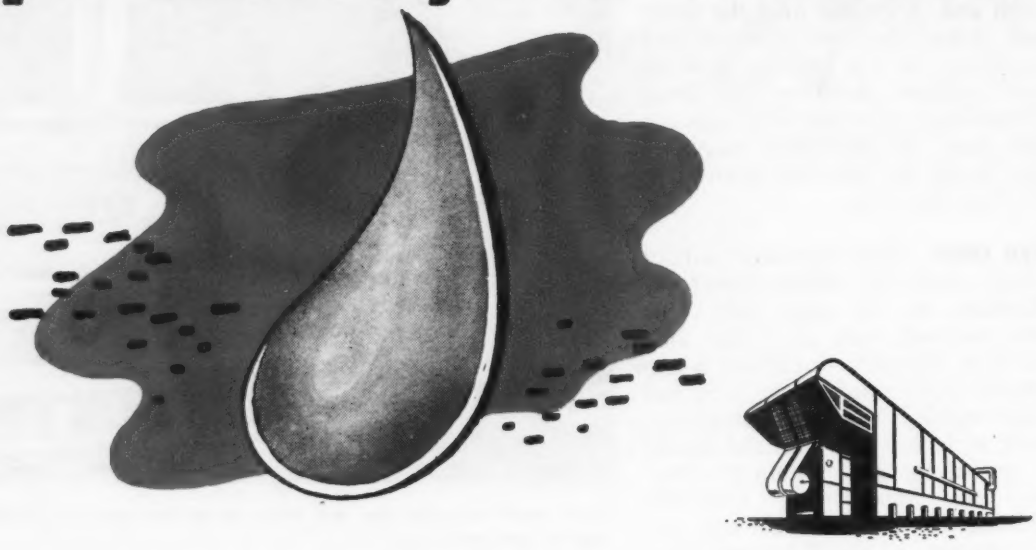
The reed should be aligned so that it is between 0.005 and 0.008 in. behind the shuttle boxes. This distance can be determined by using a light drop-wire and running it between the reed and straight edge the full lengh of the reed. If the gage fits too tightly or loosely along the reed, undoubtedly the reed must have kinks in it. This condition should be remedied. If the rail is holding down the reed tightly to the lay, there should be no backward and forward looseness in any section of the reed.

Frequently, reeds are found to have dents broken out while weaving, and the cause can be traced to reed looseness. The reeds should have been tested for this condition by attempting to move them in a direction perpendicular to the lay and rail. Badly worn sections of the lay and rail and crooked reeds usually cause this looseness which can be temporarily remedied by packing the rail at the section found to be causing the looseness.

Single reed dents occasionally extend several thousandths of an inch beyond the other dents in the reed face due to the fact that the weaver pulls the reed-hook through in a twisted direction. It does not take long for these protruded dents to crystalize and break from the constant striking of the dent by the shuttle.

One unseen reason for high mortality in reed-dent breakage is faulty assembling of reeds in their manufacture. Frequently, spring wires are placed in the reeds which have a thickness too great for the particular reed. Even though the spring wire may be only 0.00025 in. too thick, that wire would have to be pounded into each individual dent to get the correct reed length. This practice causes oval depressions on the dents and greatly weakens them at a highly vulnerable place. Such reeds can be found when pulling dents out. The tighter and firmer the dents are held in the reed, the heavier the spring wire that was used. Better reed makers use exact spring-wire sizes and frequently go a size smaller than the size required so as to cushion the dents instead of weakening them.

How Up-to-Date are you on ALUMINUM?



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HIGH HUMIDITY is, of course, extremely important in many types of textile production.

Of necessity, this tends to create a high atmospheric corrosion factor, which not only reduces the life of equipment, but also causes condensation, which, in the presence of rust and stains often renders worthless hundreds of yards of material.

Tough, corrosion-resisting Reynolds Aluminum sheet, plate or strip used in the construction of dryers, slashers, or other equipment, means longer life and, perhaps even more important, insures colorless stain-free condensation or drip.

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Keep your dollars fighting . . . Buy More War Bonds

* Reynolds Sheet and Plate are obtainable in various alloys, tempers and sizes as required. They are also available in quantity, fabricated into parts ready for assembly, thus saving production time and eliminating scrap. Note: Thicknesses less than .250" are designated *sheet:* thicknesses .250" and greater are termed *plate*.

See Reynolds catalog in Sweet's . . . or write for catalog 102 "Reynolds Aluminum. Its New Importance in Processing Operations." Reynolds Metals Company, Aluminum Division, 2535 South Third Street, Louisville 1, Kentucky.

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REYNOLDS

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CEILINGS and MANPOWER
Problems Considered Jointly

HIGHLIGHTS: *Washington ready to help mills which are increasing wages—MAP and M-388 changes expected—Intensive program to secure workers.*

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

A COMBINATION OF FACTORS is compelling government officials to take a more realistic and cooperative attitude toward the problems of the cotton-textile industry. The net result will be the inauguration by OPA of a new policy which will give some relief to the industry in the vital matter of price ceilings.

One of the factors at work is political or, more specifically, is the softening effect of Congressional investigation of the Price Control Act prior to its re-enactment. Another factor is the critical status of the textile industry from the standpoint of meeting current production requirements; in order to halt production drops, it is apparent that wages and price ceilings must be considered together. Still another important factor is the increasing concern over the detrimental effect that a bottleneck in textiles may have on important parts of the reconversion program, such as that of the automobile industry. Hence, several major moves are now in the making.

First, WPB, WMC, and OPA have agreed that their principal efforts to increase production in the industry will be directed to those mills, in essential production, which have increased wages to the 55¢ an hour minimum allowed by WLB as a means of attracting new employees.

PRICE CEILINGS. Second, OPA has definitely receded from the position which Price Administrator Chester Bowles took in March when he announced that his agency would not grant further price increases in the cotton-textile industry when processing costs increased. This means a return to his original view on administration of the Bankhead-Brown Amendment. Broadly speaking, the Senate, in the report of the Senate Banking & Currency Committee, has outlined the type of pricing policy that OPA is expected to follow. It was stated that ceilings on major textile items must be "fixed and maintained at not less than the sum of the following:

"1. The cotton cost, which must be computed at not less than the landed mill parity equivalent for the grade and staple of cotton used, except that after the initial adjustments required under the amendment have been made, the amendment does not require the continued use of a cotton-cost figure which is, and for a representative period has been, above or below the actual cotton cost.

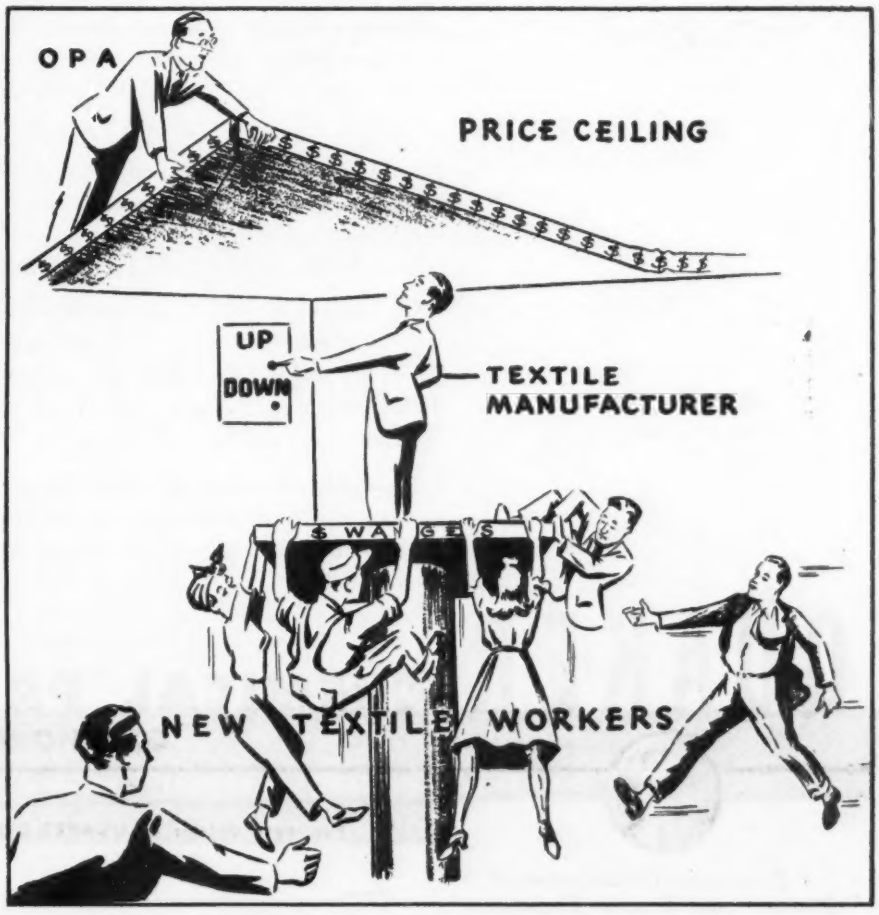
"2. Weighted average of mill conversion costs.

"3. A reasonable profit."

In an interpretation of "reasonable profit," OPA plans to make use of the net-worth formula. Changes in processing costs will be taken into consideration by OPA. It is not yet clear how satisfactory the present plans will be.

NET WORTH CRITICIZED. Speaking before the House Banking Committee, George M. Wright, president of Republic Cotton Mills, Great Falls, S. C., stated, "The Bankhead-Brown Amendment has been a wonderful help, but its mention of profit is indeterminate. It gives no yardstick for measuring profit except one which OPA has provided, known as the net-worth formula." Condemning this formula, he added, "When you take one base period and try to apply it to all industries, you are attempting the impossible. As an example of the way in which the net-worth formula works, he cited the rollback of a cent a pound on the interim prices established for print cloths under the Bankhead-Brown Amendment after the net-worth formula was applied to these prices, thus removing the only margin of profit that had been granted.

(*Continued on page* 190)



How a raised price ceiling increases textile manpower.

Available Now

A POWERFUL *New* SYNTHETIC DETERGENT

Stable to acid, alkali and hard water . . . particularly effective at high temperatures

QUAKER DIANOL "R"

TO INVENT DETERGENTS that will scour fabrics faster and more thoroughly is a problem Quaker research chemists work on constantly. Occasionally they develop a product that is many times more effective than anything they have produced before. Now . . . they've done it again!

The new product—QUAKER DIANOL R—is a true synthetic detergent of greatly improved cleaning and sudsing ability. Unlike many other detergents, it is *extremely effective in high temperature scouring* (from 140°F. to the boil). It is especially powerful when used with tetra-sodium pyrophosphate, soda ash and other alkaline builders, yet is quite harmless and leaves the finest fabrics soft and clean.

QUAKER DIANOL R is stable both in acids and in alkalis; even a 10% concentration of sulphuric acid or sodium hydroxide does not affect its stability. Its versatility makes DIANOL R an excellent product for scouring before dyeing . . . during bleaching . . . for wetting, dyeing and printing . . . for soaping after dyeing or printing . . . and for kier boiling.

Especially important, QUAKER DIANOL R is made from raw materials that are *now readily obtainable* . . . so there is no reason why you should not enjoy its advantages at once . . . on either civilian or military work. May we supply more details?

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TEXTILE Equipment NEWS

New Harness Motion Installed at Bartson

A new harness motion for looms, patented by W. D. Steagall, superintendent of Albert J. Bartson, Inc., Charlotte, N. C., has been installed and is now in operation on duck looms at the Bartson's Charlotte mill. The harness motion (Patent No. 235,884, Sept. 26, 1944) is said to be adaptable to all types of looms and weaves and to have certain advantages over the cam-operated motion.

It is driven from the side of the loom by an extension of the camshaft. A large stationary gear, Fig. 1, a, which circles the extended camshaft but is not fastened to the shaft, is firmly fixed to a stand, *b*, bolted to the loom side and to the floor. The camshaft extends through the large gear but does not give motion to the gear. To this end of the camshaft is fastened a large crank, *c*, which carries a planetary gear, *d*, in mesh with the larger stationary gear. The crank, driven by the camshaft and guided by the small gear, revolves around the circumference of the stationary gear.

An eccentric shaft, *e*, is attached to the outer end of the crank shaft, directly opposite the gear *d* and carries the lifting rod *f*. As gear *d* moves around the stationary gear a, the eccentric shaft raises and lowers the lifting rod. This action is transferred to the harness by means of a lever and shaft arrangement at the top of the loom, Fig. 2, a.

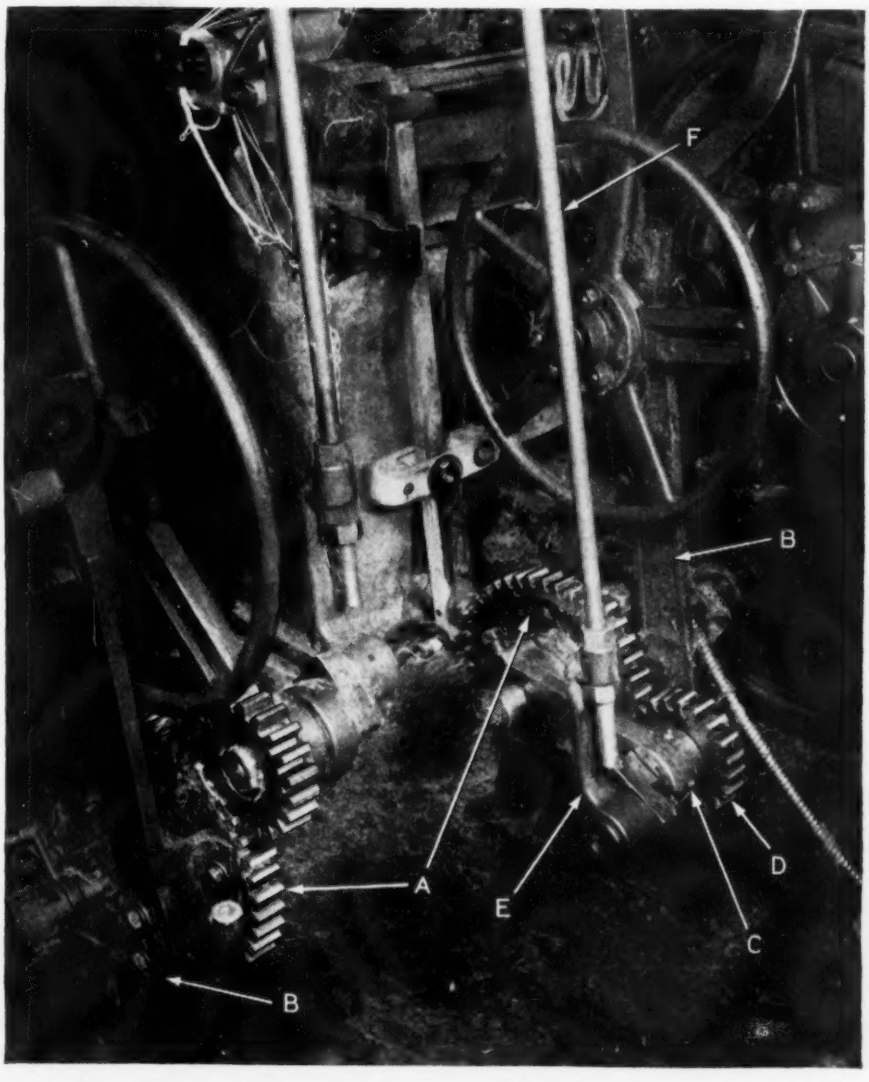


Fig. 1. Two gears, one stationary and the other rotating around it, compose the driving mechanism of the new harness motion.

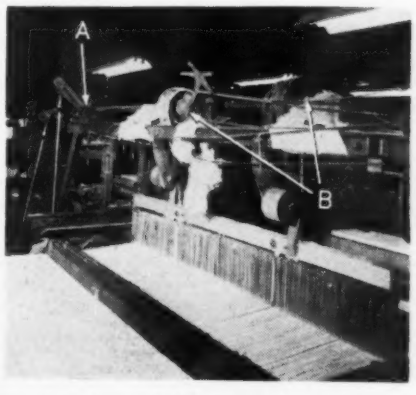


Fig. 2. A lever, shaft, and pulley arrangement on top of the loom transfers the action of the mechanism to the loom harnesses.

As the shaft at the top of the loom turns, the pulleys, *b*, fixed to the shaft turn. This raises and lowers the harness by means of heavy leather belting fastened to the pulleys. A compensator roll, under the loom and not shown in the photographs, is attached to the harness and the loom.

In announcing this new device, it is stated that the harness dwell can be adjusted to various widths by a quick movement of one bolt in the lever at the top of the loom. The movement of the smaller crank shaft, e, is in a direction opposite that of the gear *d*, which results in better shedding. This minute adjustment of width of shed makes it possible to change the loom quickly from one type of weave to another. It is especially desirable for fine weaves.

On dobby looms, the purpose of the mechanism is to afford a proper dwell on the harness. This is obtained by the crankshaft, e, actually dwelling at the top and bottom of the stroke.

Another advantage of the new har-

ness motion is its location. Being on the outside of the loom, it can be freely oiled or greased without danger of oil staining the cloth or the warps.

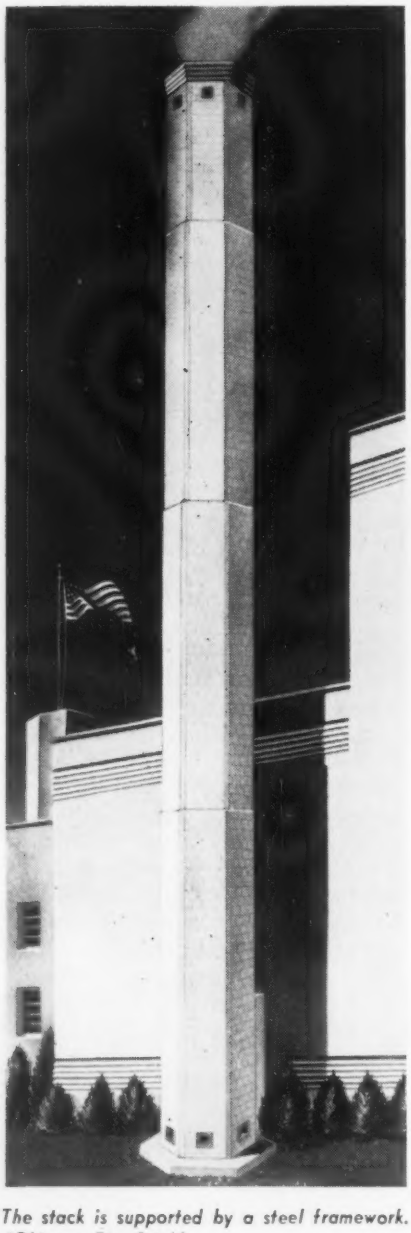
Smokestack Built Like a Sky-Scraper

A smokestack built like a sky-scraper has been developed by the Chicago Fire Brick Co., Chicago, Ill. The "Durabuilt" Stack, as it is named, consists essentially of a hexagonal steel structure which is braced throughout its length to resist high wind-load, shock, lightning, and earthquakes. Horizontal and vertical members are attached to the steel structure to support the anchor and tile castings. Each tile forming the inner wall is individually retained, while the outer tile is supported by means of channels at definite spacings. Any section of the tile may be independently removed.

An outstanding feature of the stack is its insulation. This fits securely between the tile and retainer castings, provides low radiation loss, and helps to keep temperatures within the stack uniform.

Being sectionally supported, there is no cumulative load upon the fire brick lining. Less foundation is required, and weight savings of approximately 33⅓% are made possible.

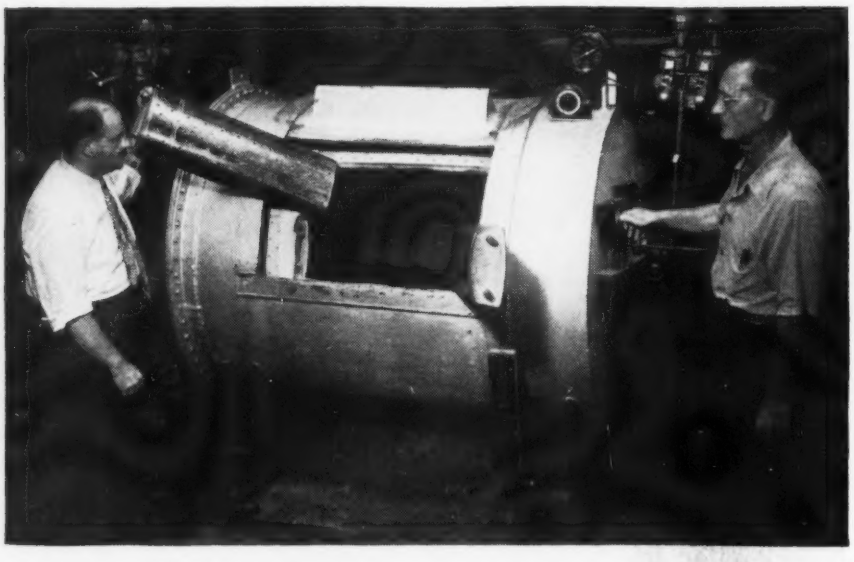
The outer casting of the stack can be of tile, sheet steel, transite, or waterproof material. The stack is easy to erect, repair, or to apply safety railings and loaders; it is crack-proof and permits full-coverage insurance. Its cost is comparable to a heavy-duty stack, and it can be erected in any height from 50 to 300 ft. Engineering data and other particulars may be obtained by addressing the company at 1467 Elston Ave., Chicago 22, Ill.



The stack is supported by a steel framework. (Chicago Fire Brick)

POSTWAR WATER COOLER

Departing from the conventional path in designing water coolers, the Sunroc Refrigeration Co., Glen Riddle, Pa., plans to market coolers which will rival home furniture in eye-appeal. Models will be designed and colored to harmonize with their surroundings.



Speeds up to 700 r.p.m. are possible for extracting. (Fabric Laundry & Dry Cleaning)

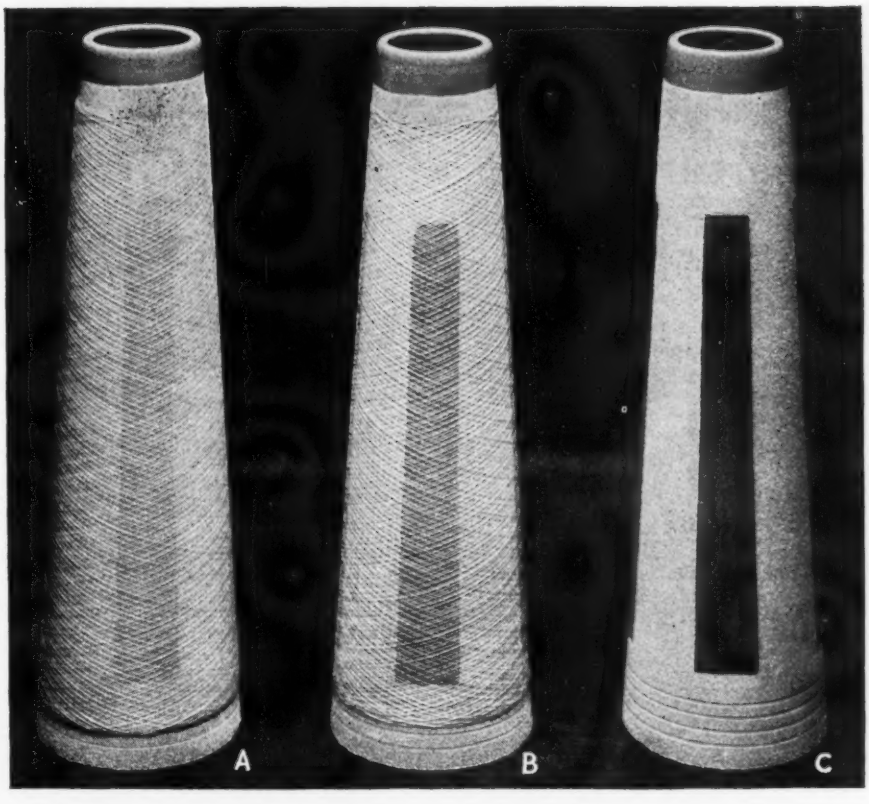
Washing Machine Used for Extracting

A laundering and dyeing machine to serve a number of purposes on a laboratory or small-production scale is being manufactured by the Fabric Laundry & Dry Cleaning Machinery Corp., Brooklyn, N. Y. Built primarily as a washing and extracting machine for the laundry industry, the Washex equipment is finding wide application in other fabric industries. In addition to washing and extracting, it is being used for centrifugal rinsing, drying, and dyeing.

Heavily constructed to withstand the strain and vibration of centrifugal extracting, the machine is available in 3 sizes: 200, 300, and 500 lb. dry weight of fabric. It will "wash" at a speed of 18 to 23 r.p.m., depending upon the size of the machine; and extracting is done at a top speed of 700 r.p.m. The extracting speed also varies with the size of the machine.

When used as a centrifugal rinser, the machine is equipped to maintain a steady stream of water into the revolving horizontal cylinder to eliminate the necessity of loading and unloading the rinse water. The patented drying feature permits the fabric to be taken from the machine either thoroughly dry or conditioned as desired for a following process.

VISIBLE RUNOUT



A SONOCO improvement over the solid colored cone when used for purposes of "visible runout"—½" vertical black bands are picked up by the eye more easily—through the yarn—before final delivery.

A—shows cone as runout approaches.

B—at point where change can be made with minimum press-off.

C—yarn completely delivered.

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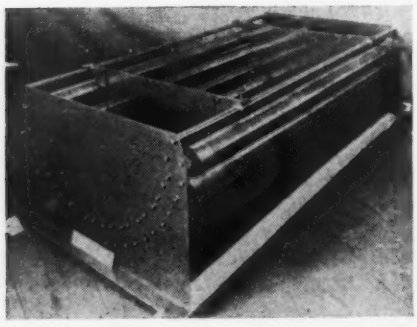
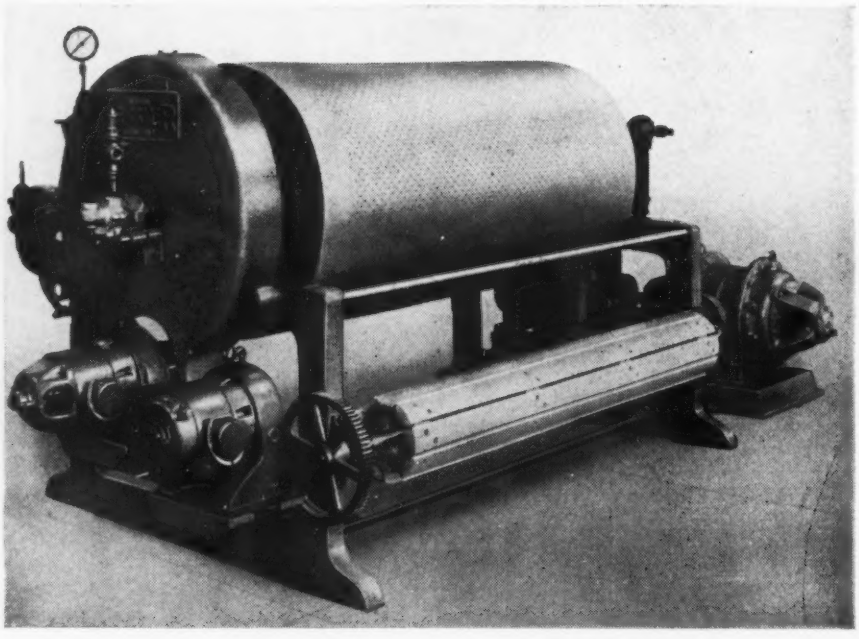
BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

BALL-BEARING ROLL-TYPE SCRAY

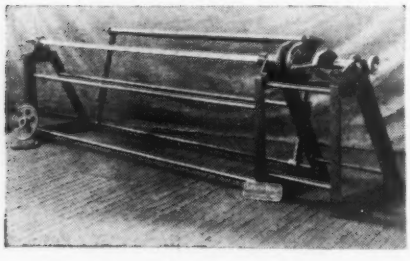


Development of a scray to fill the needs for a freely operating unit to handle heavy rolls of cloth of large diameter and in all widths has been announced by Birch Bros., Inc., 32 Kent St., Somerville, Mass. Cloth rolls carried in this scray may be unwound easily as the carrying rolls are 4 in. in diameter and are mounted on ball bearings. The standard size scray will handle cloth up to 36 in. in diameter by 72 in. in width.



Individual drives eliminate clutches in the new semi-decating machine. (Gessner)

SLIP-PLATE BATCHER



A batcher made to accommodate cloth in all widths is now being manufactured by Birch Bros., Inc., 32 Kent St., Somerville, Mass. Drive is by roller chain or V-belt to a friction unit composed of double-friction plates with an adjustment so that the amount of friction may be instantly adjusted. The clutch for starting and stopping the machine is mounted on the same shaft as the friction plates, thus making a very compact unit. On the entering side of the machine are mounted two rolls of special design to keep the cloth free from wrinkles as it is wound.

The slip-plate batcher, as appeared in the June issue of TEXTILE WORLD on page 152, should have been illustrated as above.

Aprons Protected In Semi-Decating Machine

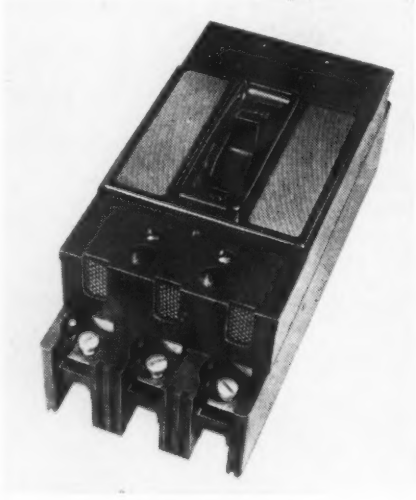
New and important improvements have been incorporated in a new semi-decating, or open-steaming, machine being manufactured by David Gessner Co., Worcester, Mass. Automatic tension controls to prevent apron slap and looseness lengthen the normal life of the decating apron. Further mechanisms, working independently of apron tension, control the firmness of the decating roll. Individual motors to drive the cylinder and storage roll have made possible the simplification of the actual decating operation by eliminating all clutches.

Two optional folding features are available: a front platform with guides to load the folded cloth from the truck onto the machines, and a self-threading folder to unload cloth in folded form back onto the truck.

Several of these machines are now in operation in woolen and worsted mills. The machine has also attracted the attention of rayon mills for the finishing of certain types of spun-rayon goods.

Circuit Breaker

A new 100-ampere De-ion circuit breaker which requires less space and permits lighter structures for distribution panelboards, built-in applications, and bus duct plug-ins, is announced by Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa.



De-ion 100-ampere circuit breaker (Westinghouse)

All ratings are available in one compact breaker with uniform pole spacings and terminal arrangement, providing complete interchangeability between ratings. The new F-frame permits, for the first time, a 100-ampere, 600-volt a.c. or 250-volt d.c. breaker in the same space formerly required by the 50-ampere, 600-volt a.c. or 250-volt d.c. rating.

Equipped with thermal and instantaneous magnetic trip elements, the De-ion fuseless circuit breaker permits maximum loading of circuits and fast resumption of interrupted service. Contact pressure increases with wear, thereby prolonging the life of contacts and breaker. Silver alloy contacts give increased contact life with lower wattage loss. The special alloys used also prevent "freezing". Both two- and three-pole units are available.

Wall-Type Air Conditioner

What is stated to be an entirely new development in air conditioning, is offered by American Coils Co., 25-27 Lexington St., Newark 5, N. J., in the presentation of its Comfortaire Conditioner, a wall-type air conditioner that removes up to 90% of the latent heat (humidity) with adjustable sensible heat (temperature) control. It produces true air conditioning without a cold, damp effect and eliminates the

(Continued on page 202)

NAVY COMMENDATION AWARD

to

Kaumagraph Company

June 22, 1945

For outstanding performance and exceptional work beyond the exacting high standards of the Navy, The Navy Commendation Award has been instituted for concerns rendering service other than that which comes within the scope of the Army-Navy "E" Award. Eligibility for this service award depends upon the recipient's total activities being chiefly for war work, a substantial portion for the Navy. Kaumagraph is proud that its everyday standard of quality and service merited this distinguished award. The distinction of being one of only five companies in the graphic arts field which first and simultaneously received the service honor is also gratifying. The achievement of The Navy Commendation Award is also in no small measure due to the loyalty and forebearance of civilian customers in deferring their requirements to the urgencies of war production.

TO KEEP 'EM RUNNING

Air-Conditioning Units Need Frequent Cleaning

To keep air-conditioning equipment working efficiently, a regular cleaning schedule should be installed. The troubles which most mills experience with the conditioning units arise from two causes: (1) collection of lint on the outside of the coils and lines and on the filters; (2) the accumulation of slime and scale inside the circulation system.

Combatting the bacteria which form the slime and the minerals which form the scale is discussed in the booklet *Oakite News Service*, May-June, 1945, issued by Oakite Products, Inc., New York, N. Y. The method recommended for cleaning air washers and evaporative condensers at regular intervals, and the entire system occasionally, is to circulate through the unit a special detergent solution which has a dissolving effect upon the deposits of organic matter and hard-water minerals. It is said that the solution loosens and dissolves the deposit without harming the equipment itself; and since it follows the path of the water, its cleaning action is applied to parts of the system which cannot be reached by mechanical means.

The removal of lint accumulation presents a more difficult problem. Most mills have found that this must be done by purely mechanical means, such as blowing, scraping, or brushing. This must be done at regular and frequent intervals to prevent the accumulation reaching proportions which would make its removal a difficult job.

The application of a mild swelling or dissolving agent, such as an 8% solution of sodium hydroxide, will help loosen the lint and dust collection. The solution can be made up by dissolving 8 gm. of sodium hydroxide in 92 c.c. of water. This, of course, represents the basic proportion and can be made up in any quantity desired.

After applying the caustic solution to the lint accumulation, let it remain about 15 min. and then remove by blowing the accumulation with compressed air or by mechanical rubbing or scraping. The parts of the equipment to which the solution was applied should be washed thoroughly with water to remove any remaining caustic.

Whatever method is used for cleaning the air-conditioning equipment must be repeated at frequent intervals to keep the unit functioning properly.

PRODUCTS & PROCESSES

New Water Repellent

RAMASIT KT EXTRA; General Dyestuff Corp., 435 Hudson St., New York, N. Y.

Under the above designation, General Dyestuff Corp. is offering a new water-repellent of the Ramasit K type. Ramasit KT Extra is substantially the same kind of product as Ramasit KE Concentrated, although it has the advantage of a higher wax content. The company states that this product contains neither glue nor gelatin. The higher wax content makes this product of interest to those plants finishing goods to government specifications, which require definite quantities of wax.

The company states that Ramasit KT Extra is applied by diluting with warm water of about 130° F. and padding on fabrics to give concentrations of 3 to 6% on the fiber. It is applicable to cotton, rayon, and wool fabrics. The water-repellent effect imparted to cotton and rayon fabrics is, of course, not durable and is removed by washing or dry-cleaning. On wool, however, the product is fast to dry-cleaning.

Similarly to Ramasit KE Concentrated, the new brand can be exhausted on cotton, rayon, or wool by running in a long liquor for 20 to 30 min. at 120 to 140° F. Usually 5% of water-repellent on the weight of the fiber is sufficient to give the required repellency. This quantity varies according to the construction; tightly woven fabrics require less water-repellent than loosely woven, absorbent material.

Mildew-Proofing Agents

PERMA-CIDES; Refined Products Co., Page and Newark Aves., Lyndhurst, N. J.

The Perma-cides are a series of mildew-proofing agents, which the company states are highly fungistatic, bacteriostatic, bactericidal, and fungicidal. These properties are said to be retained after up to 30 washings. In addition, the compounds are non-toxic, non-irritating and are not cutaneous sensitizers. Also, they are said to be compatible with various wax-type water-repellents so that they may be combined in the same bath with the water-repellent chemicals.

Wax Emulsion

HYDROXY WATER-SHIELD #40; Kali Mfg. Co., 427 Moyer St., Philadelphia 25, Pa.

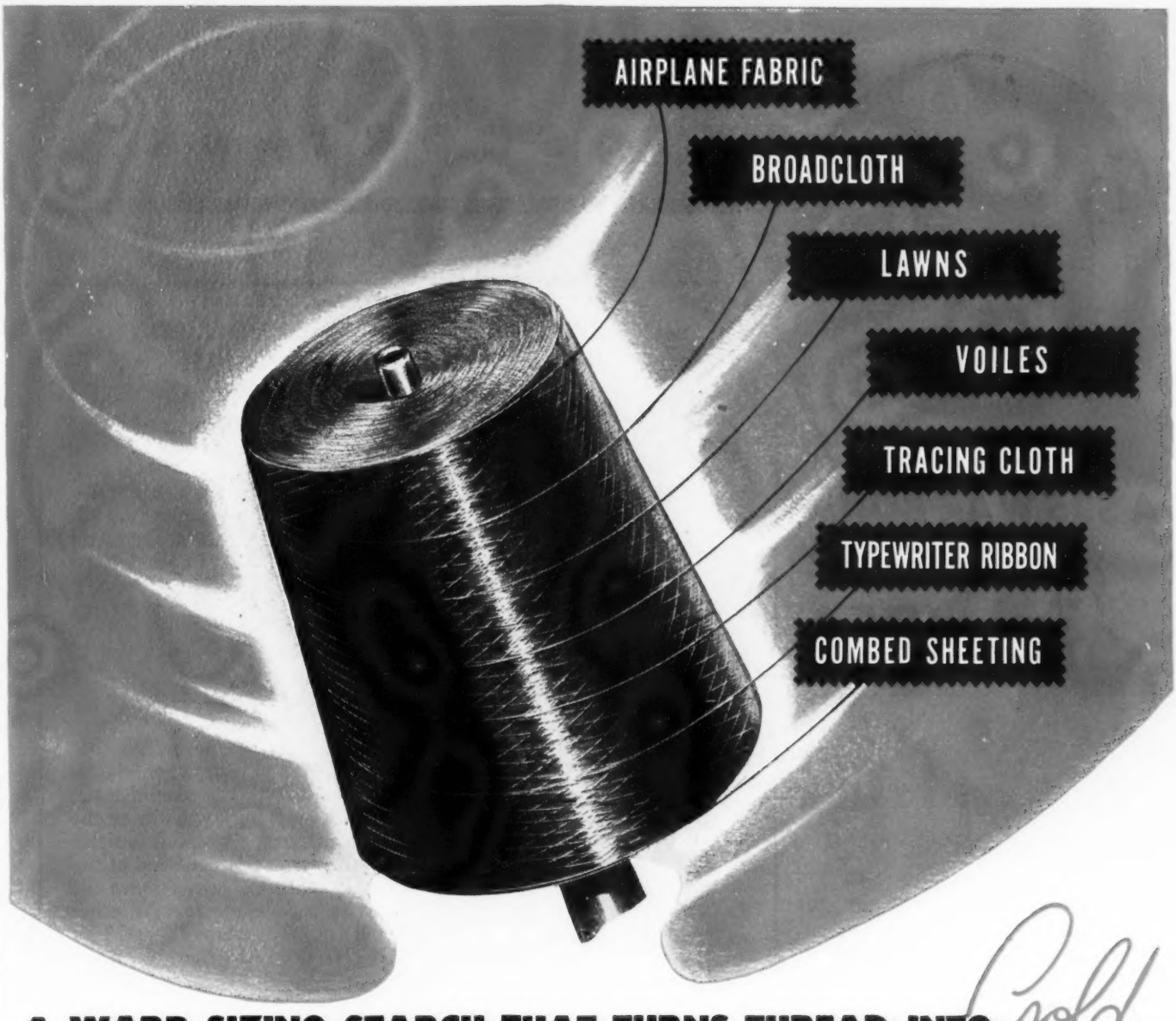
Hydroxy Water-Shield #40 is a wax emulsion of high solids content and is designed to be used in either a one- or two-bath method of application, along with aluminum acetate or aluminum formate.

The company states that this product is used extensively on twills, numbered ducks, and other fabrics used by the armed services. It is said to give high spray ratings and meet all hydrostatic tests required in the specifications.

High Initial Repellency

AQUA SEC QM SPECIAL; Aqua Sec Corp., 1450 Broadway, New York, N. Y.

This product is a high wax content water-repellent emulsion containing an aluminum salt which has been developed by the above company especially for the finishing of government fabrics when high initial repellency and minimum wax content is specified. Aqua Sec QM Special is said to be stable over a wide range of temperatures and compatible with the various fungicides specified by the government.



A WARP SIZING STARCH THAT TURNS THREAD INTO *Gold*

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– and further, NALEX is more economical to prepare: It requires only 20 to 30 minutes at the boil – instead of the usual 1½ to 2½ hours... uses 50% less softener for regular sizing; none for light sizing... needs no enzymes or chemicals to adjust its accurately controlled viscosity.

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National also produces: KOVAT, a cold water swelling gum for vat and discharge printing; HOOSIER Pearl Cornstarch; LANAMYL for sizing worsted yarns; FLOJEL, uniform, thin boiling corn starches in all standard fluidities; FIBERJEL "V" for sizing filament viscose yarns; FIBERJEL "AC" for sizing filament acetate yarns; FIBERJEL "SR" for sizing rayon yarns and blends with acetate or wool.

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Kinks AND SHORT-CUTS

A $25 WAR BOND FOR YOUR IDEA

A $25 War Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person make make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety cutting costs, improving quality, speeding up production, in brief any little device, stunt-kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ **WAR BOND PRIZE WINNER FOR JULY**

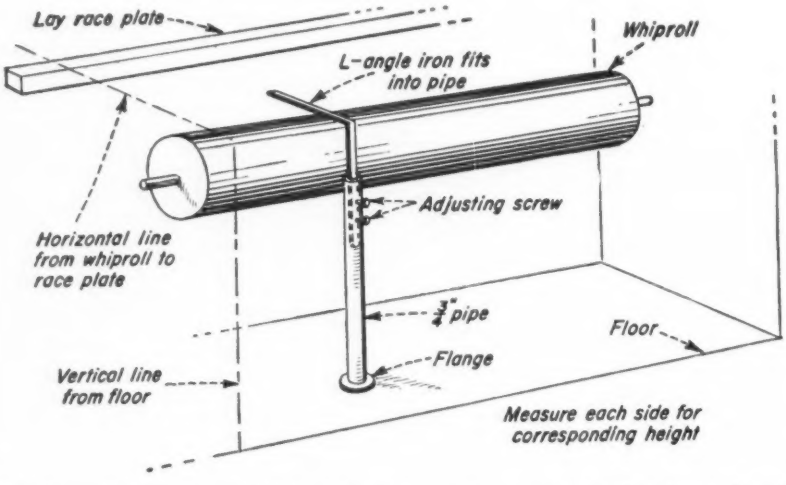
(May Contest)

Whiproll Gage Makes Adjustments Accurate

Adjusting the whiproll of a loom should be done with an accurate gage. In weaving various fabrics, the whiproll is adjusted high, level, or low to obtain the desired face or body on the cloth; and a haphazard method of making these adjustments may lead to unnecessary end breakage.

The device shown in the sketch provides a gage which will make accurate whiproll adjustment a simple task. The stand, which will reach from the floor to approximately the center of the whiproll, is made from ¾-in. pipe. A pipe flange large enough in diameter to hold the pipe erect is attached to one end of the pipe. Drill and tap two holes for setscrews in the opposite end of the pipe. A piece of steel rod or a smaller pipe bent into an *L* shape and inserted into the larger pipe serves as a movable measuring rod for gaging the adjustment. It should be long enough to be moved up and down as far as the top of the whiproll is likely to be moved in making any possible adjustment.

To operate, the gage is set at the height desired for the top of the whiproll, the flange placed flat on the floor, and the whiproll moved up or down until it touches the horizontal shank of the *L* rod. Care should be taken that the pipe flange is resting solidly on the floor before the whiproll is tightened. After setting one end of the whiproll to this gage, remove the device and repeat for the other end of the whiproll. *(K-340)*
H. H. Wenrich, Berwick, Pa.



Two pieces of pipe are needed to make this accurate gage for leveling loom whiprolls.

Idle Harness Sheaves Caused Weaving Defects

Originally our Draper cam looms were equipped with six harness sheaves, a sheave-shaft washer, and a cotter pin to secure the assembly. As we usually run four-shaft "skip" jobs which require only three sheaves, we were wearing out three sheaves more than was necessary. In addition, dirt and rust sifted down through the sheaves and into the warp and caused dirty cloth. The cotter pin had a pronounced

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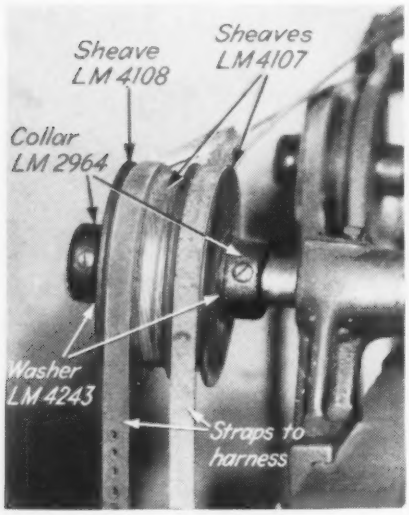
KINKS & SHORT CUTS

(Continued from page 140)



Collars and washers take the place of unused sheaves on the shaft.

tendency to wear out and fall into the warp, causing smashes.

To correct these conditions, we eliminated three sheaves by using two collars and two sheave-shaft washers, as shown in the photograph. Beginning on the loom side and listed in the order in which they are placed on the shaft, we use:

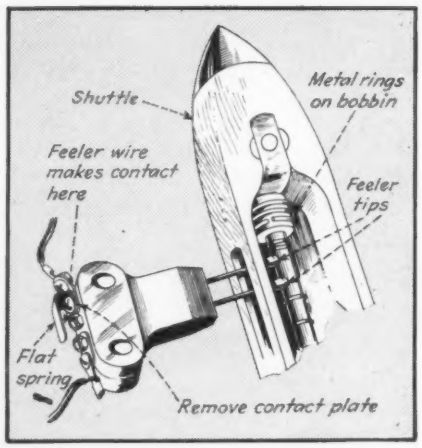
Collar	No. Lm 2964
Washer	No. Lm 4243
Sheave	No. Lm 4107
Sheave	No. Lm 4107
Sheave	No Lm 4108
Washer	No. Lm 4243
Collar	No. Lm 2964

There is very little wear in this arrangement, and it saves much material and trouble. It can also be used on a straight job by the addition of one No. Lm 4107 sheave.

When the warp comes out of the loom, only a few minutes are required to remove the front collar and the sheaves, grease the shaft and the inside of the sheaves, and replace the assembly in the order given above. *(K-337) Charles Schach and Alfred King*

Contact Spring on Feeler Prevents Burned Filling

When feeler tips make contact with the metal at the butt of a filling bobbin, the brass tips have a tendency to create a spark sufficient to burn delicate filling yarn. Close examination of a bobbin will also reveal that the spark from the feeler, when making contact with the bobbin, will burn a



Flat spring replaces contact plates.

hole in the metal. This causes a rough place on the bobbin which will break the filaments in the yarn and cause broken picks.

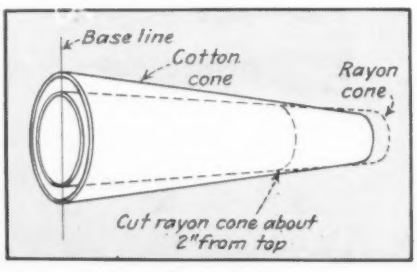
To overcome these defects, the device shown in the illustration was adopted. Contact plates that lie underneath the feeler-wire bushings and screws on one side of the feelers were removed, and a flat spring shaped as shown was substituted. Careful setting of this spring prevented contact until the feeler tips touched the metal on the butt end of the bobbin.

Other points worth considering in connection with feelers are: (1) feeler brass tips should be polished only with a relatively fine-textured material, such as crocus cloth or a reed repolishing stone composed of rubber impregnated with fine abrasive grit; (2) spring tension on feelers should be as light as possible to prevent severing delicate yarns. *(K-334). John L. Bove, Hazelton, Pa.*

Tubes Can Be Used for Holding Cotton Cones

Many rayon mills today equipped with warper creel cone adapters for 3° 30′ taper rayon cones are running cotton stock on their warpers and having trouble trying to hold the 5° 57′ taper cotton cones on the adapters.

One method of solving this problem is illustrated in the accompanying sketch. Cut about 2 in. from the nose of a rayon cone, place the remainder of the cone on the adapter, and creel the cotton cone over it. This has been found to hold the cotton cone very satisfactorily. *(K-326)*



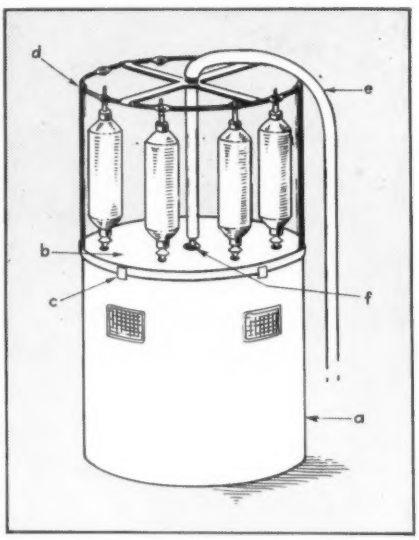
Discard 2 in. of rayon cone to make cotton-cone holder.

Compressed Air Removes Bad Roving From Bobbin

In many mills the number of bobbins rejected for use in the spinning room and sent back to the card room as bad work creates a job of handling which consumes many man-hours. The use of compressed air to take the roving off the bobbin saves time and eliminates cut fibers from the use of a knife.

A stand to hold the air hose and bobbins of roving should be built over a container to receive the blown-off roving. The sketch illustrates one method of building such a stand.

Using a drawing can or a large waste can *a* as the container, construct a

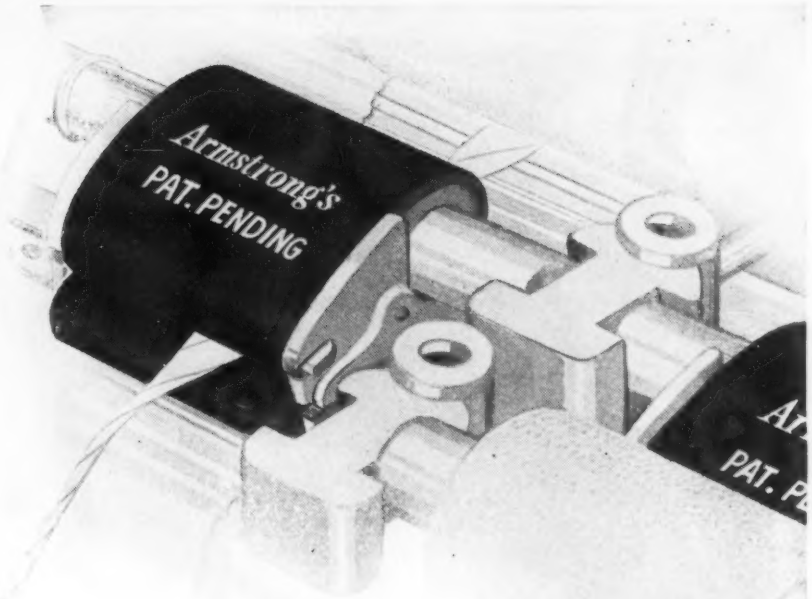


Eight bobbins of roving can be unwound simultaneously.

wooden lid *b* to fit the top. This lid should be heavy enough to withstand the draft pushing upward in the can when the air is turned on. To lessen the draft, air-escape windows should be cut in the sides of the can near the top and screened to permit the escape of air while retaining the cotton. To prevent sidewise movement of the lid, fasten four legs *c* to the edge of the lid, equidistant upon its perimeter and closely fitted against the outside of the can.

Eyelets from a roving creel-board should be sunk into the top of the lid at distances around its circle to permit the bobbins of roving to revolve, as in

these aprons are CLEAN RUNNING



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NO STRETCHING: The cord interliner in Accotex Aprons prevents loss of efficiency due to stretching during operation.

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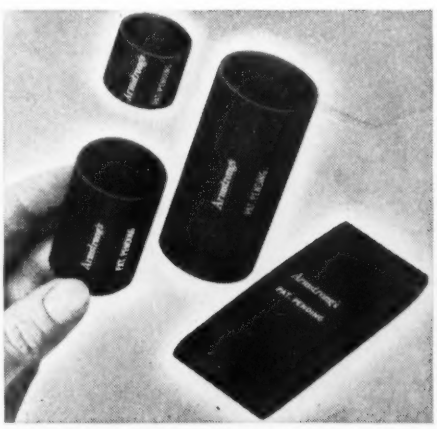

ARMSTRONG'S ACCOTEX APRONS

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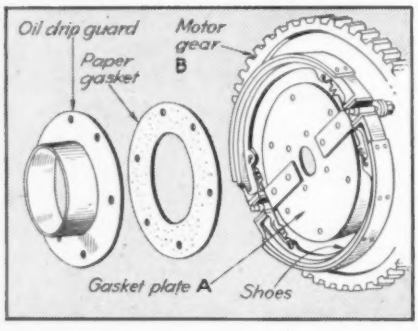
KINKS & SHORT CUTS
(Continued from page 142)

a frame creel. Above the lid and anchored to it with legs, construct a "top creel-board" *d* to support the roving skewers.

The air hose e may extend down a post or up from the floor to the center of the top creel. Here it should be securely fastened at a distance on the pipe which will permit the end of the pipe to rest about 1 in. above a hole *f* bored in the center of the lid. The edge of this hole should be rounded off and lacquered to prevent the roving from hanging. The end of the pipe must also be fastened near the hole in the lid to avoid its whipping around when the air is turned on.

To use the arrangement, creel the bobbins of rejected roving into the creel on top of the container and turn on the air. Pull a length of roving from the bobbin and insert it in the center hole of the lid. The compressed air blowing into the container will unwind the roving from the bobbin. An adjustment to the force of the air must be made if the roving unwinds too slowly or if it is broken at the hole instead of unwinding. The number of bobbins which can be unwound at one time will depend upon the diameter of the container and the size of the bobbins of roving. (K-360)

Gasket Stops Dripping Oil From Loom Clutch



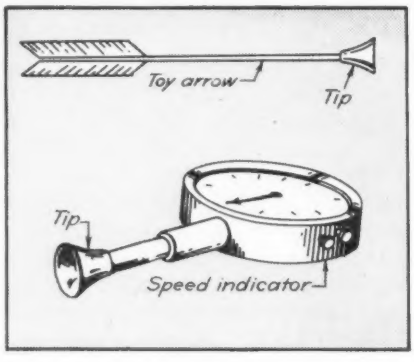
A gasket made of heavy warp paper soaked in shellac seals the oil guard to the drive gear plate.

Crompton & Knowles Model S looms have a motor drive gear containing an oil reservoir which lubricates the drive gear and the crank shaft, and wicks are used to hold the oil. After a long period of use, the wicks become hard or overworked, and the oil has a tendency to drip down over the reservoir plate and into the clutch shoes. This causes failure of the shoes to grip properly when friction is applied and results in loss of power and much loom trouble. When the clutch is in this condition, it must be dismantled and all parts washed with a cleaning solvent to remove the oil. Cleaning requires from two to three hours.

The illustration shows a method of preventing oil from dripping into the clutch shoes. Using a plate from a discarded motor drive gear as a pattern, fashion a paper gasket from a piece of heavy warp paper soaked in shellac. The gasket, placed between the oil guard and plate, will seal the guard sufficiently to prevent the escape of oil.

On the single-expansion type clutch, one paper gasket will be enough to accomplish the purpose; but on the double-expansion type, several thicknesses of shellac-soaked paper must be used to build up level with the top shoe stop-plate. (K-305) *J. L. Bove, Hazleton, Pa.*

Toy Arrows Provide Speed Indicator Tip

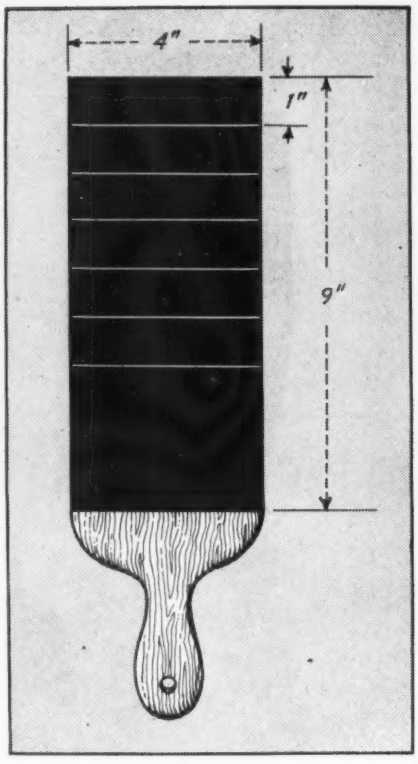


Remove the vacuum-cup tip from the arrow and place it on the end of the speed indicator.

It is often necessary to take the speed of a shaft which has no center recess, and most speed indicators are furnished with a vacuum-cup tip for this purpose. If this tip is lost or worn out and another is not immediately available, the vacuum cup from a toy arrow or the moisture shield from an automobile spark plug can be used. (K-336) *S. I. Neber, Reading, Pa.*

Velvet Board Makes Nep-Counting Easy

The sketch shows a very easily constructed board for the rapid counting of neps in the web as it comes from the doffer of a card. We use a board made of light wood, 4 x 9 in., excluding handle, with 6 white lines 1 in. apart, making a total of 24 sq. in. Any other size that is convenient will work; but we find it very easy to take the one we use to the card, stop the doffer, slip the board underneath the web, lift it, and tear out a section of the web.



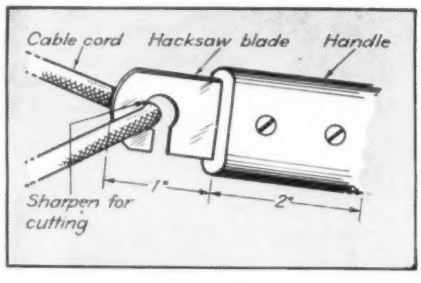
This board is covered with black velvet and has white lines 1 in. apart.

The neps between each marked-off section of the board can be quickly counted and the results recorded on a scratch pad.

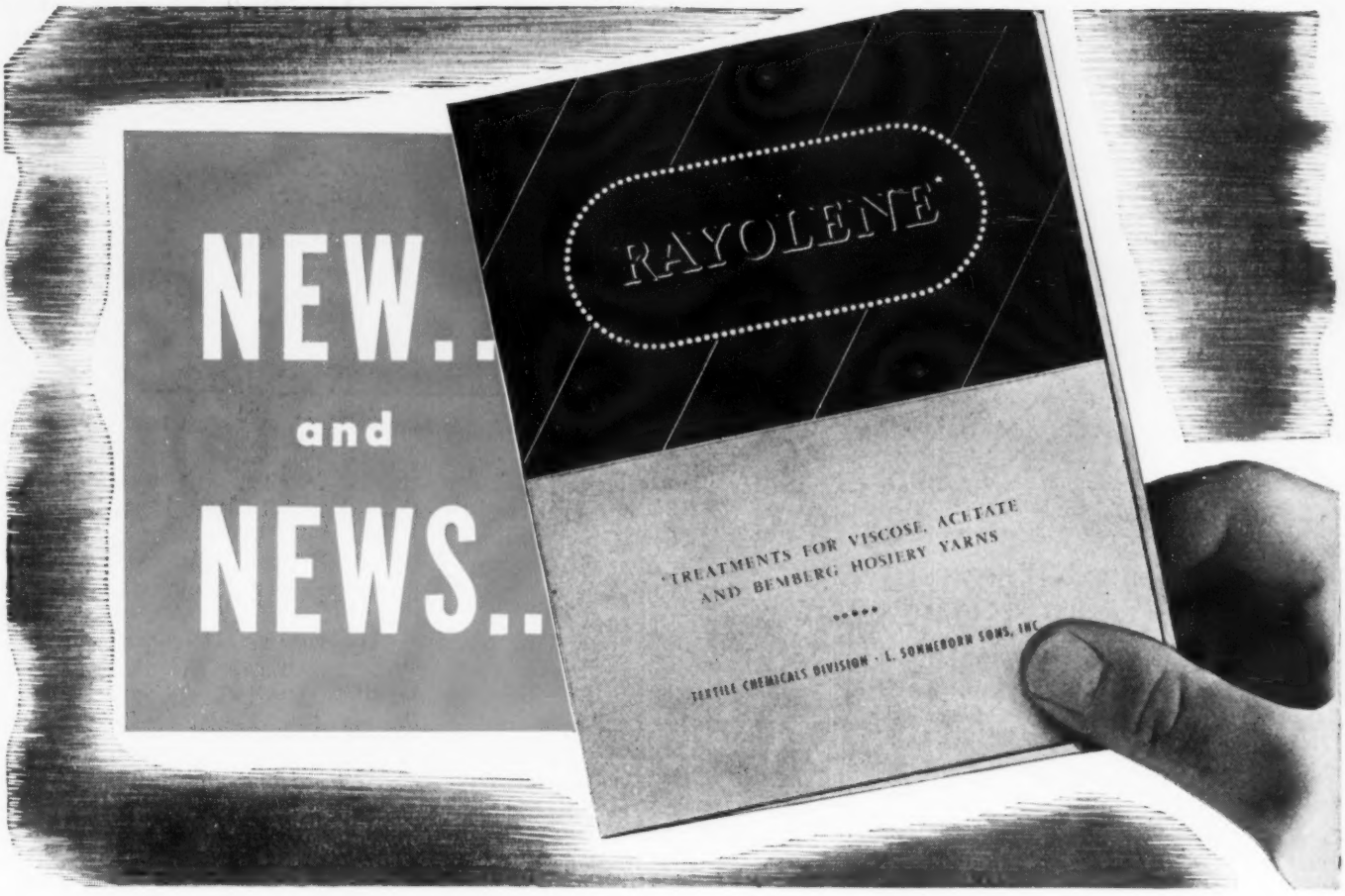
We find that a black velvet covering on the board makes a good background and holds the web in place while the neps are being counted. (K-333)

Cable Cutter Made From Hacksaw Blade

A convenient tool for cutting cable or harness cord can be made from a hacksaw blade. Cut a 3-in. length from the end of the blade and fashion a notch in the side of the hole. Sharpen the inside of the hole on the



Slip the cable to be cut into the notch and pull.



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KINKS & SHORT CUTS

(Continued from page 144)

emery. A small grinding wheel used in the drill press will do an excellent job.

Drill two holes in the blade to fasten a handle and shape a 2-in. handle from wood or leather. The nuts and screw heads should be countersunk to insure a smooth hand-grip. Grind the teeth off the blade; and after the handle has been attached, round off the remaining 1-in. section of the blade. Smooth the cutter over the entire surface. *(K-342)*

Tension Guards Prevent Warp Ends From Breaking

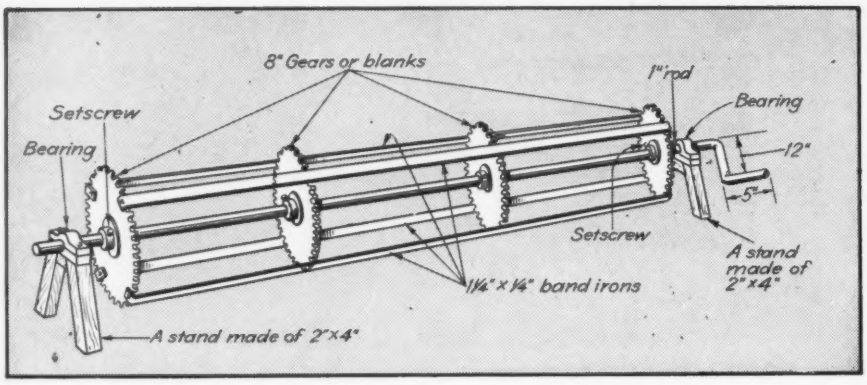
For spooling and warping, many mills use creels made from angle iron with tensions of the weight or Singer type. These tensions, consisting of a pair of pressed steel cups or disks with removable washer weights to increase or decrease the tension, are generally mounted on a hollow porcelain post with a machine screw extending through the post and creel member. The machine screw and porcelain post project above the angle iron.

On yarns that do not have a tendency to kink, these tensions and creels work very well; but when high-twist yarns or yarns not properly set are run, a great deal of difficulty may be experienced from the balloon of the yarn throwing over the top of the porcelain post or sometimes up against the nut holding the tension assembly in place. This, of course, often breaks the yarn.

The accompanying sketch shows a method for eliminating this difficulty.

A strip of thin metal (½-in. bale banding is good) is punched with holes to fit the tension machine screw, spaced the same as the tensions, and applied over the porcelain posts so that the only projection is the round head of the machine screw, which will not catch the yarn balloon. In some cases when a very deep top cup is used, it may be necessary to extend the height of the post by using a longer machine screw and a pair of porcelain posts end to end.

To cover the projecting screw and nut on the bottom of the creel crosspiece, another strip of the same metal without the holes punched in it is fastened flat to the underside of the crosspiece. Small machine screws are placed at each end in such a way that the metal strip covers the nuts leaving no projecting surface to catch the yarn balloon. *(K-325)*



Discarded crown gears and scrap band iron will make the hose rack.

Holder Keeps Air Hose Straight When Not in Use

A rack to keep air hoses straight and clean when not in use is illustrated in the drawing. Five pieces of band iron about 6 ft. long, 1¼ in. wide, and ¼ in. thick were welded onto four discarded crown gears to make a cylinder upon which to wind the air hoses.

The gears should be spaced at equal distances over the length of the flat iron pieces and should all be of same bore, as 1 in. The iron pieces, likewise, should be welded at equal distances upon the perimeter of the gears.

To wind the hose, a 1-in. rod should be inserted through the bores of the four gears and fastened to the gears with setscrews. It should extend far enough at each end to permit mounting in bearings on stands, and one end should be bent in a rough Z shape to serve as a winding crank. *(K-349)*

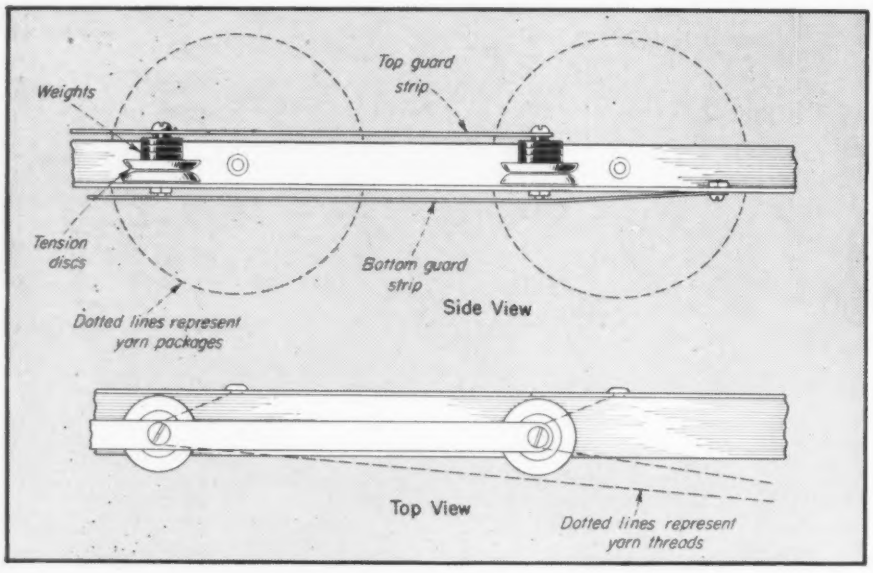
Discarded Frame Used For Painting Bobbins

Mills which use different colors of bobbins or quills to identify different roving or yarn can speed up their painting job by using a section of a discarded spinning frame. Any convenient number of spindles may be used, but the length of the frame should be determined by a length of the cylinder or bolster rail.

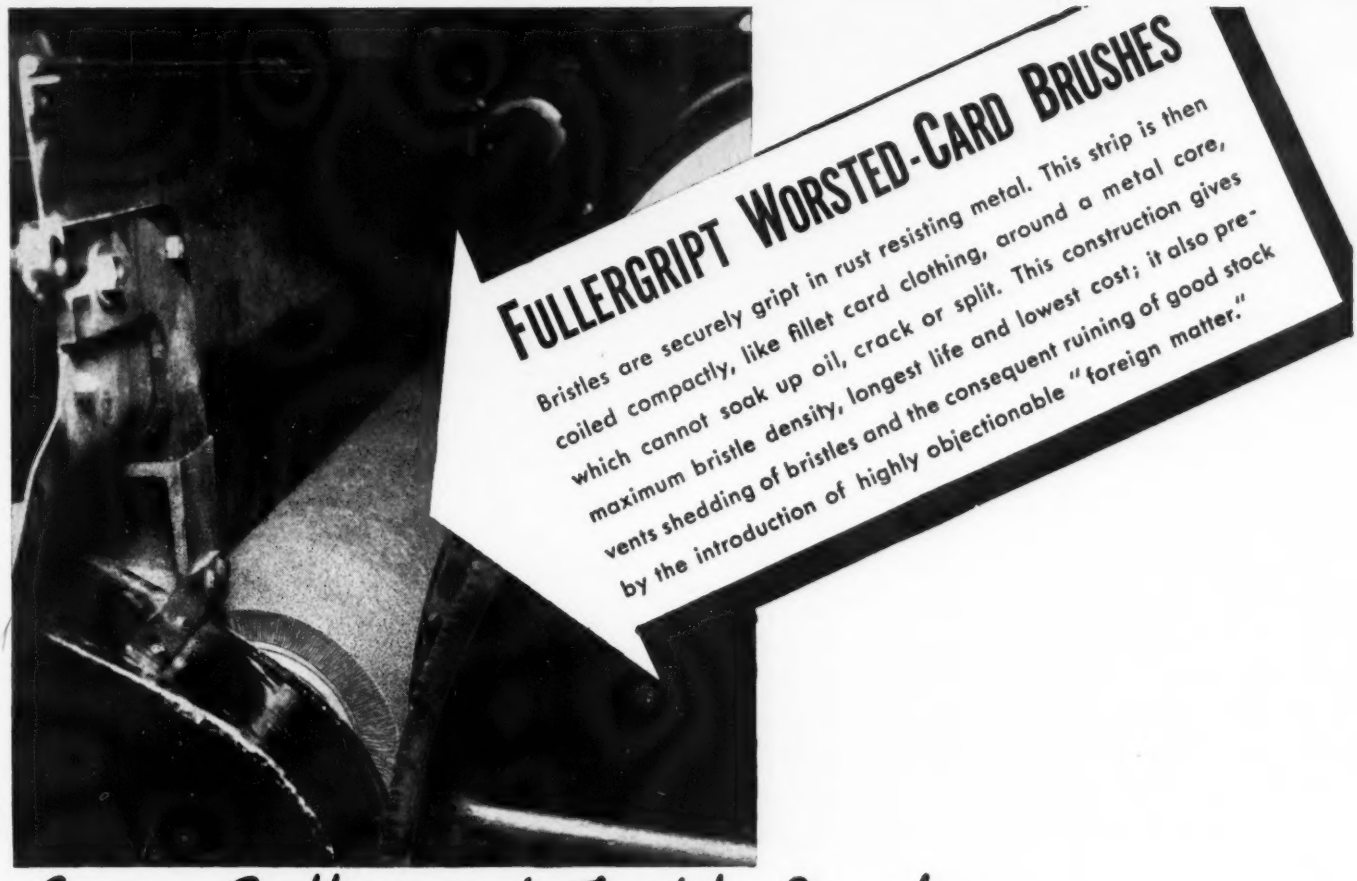
The cylinder can be driven by motor or overhead belt, as a regular spinning frame, at the speed most desirable for painting the bobbins. Spindles may be driven by bands or tapes. The rest of the mechanical parts of the frame should be removed.

To use, the bobbin painter places a bobbin or quill on each running spindle on a side of the frame section and passes his brush from one bobbin to another, holding it against each until it has made a complete revolution. When the entire line of bobbins has been painted, they should be removed and placed on end until the paint is dry.

Roving bobbins may be painted on the frame by leaving a quill on the spindle and putting the roving bobbin over it. *(K-361)*



Guard strips on warper tensions reduce broken ends caused by lively yarn.


FULLERGRIPT WORSTED-CARD BRUSHES
Bristles are securely gript in rust resisting metal. This strip is then coiled compactly, like fillet card clothing, around a metal core, which cannot soak up oil, crack or split. This construction gives maximum bristle density, longest life and lowest cost; it also prevents shedding of bristles and the consequent ruining of good stock by the introduction of highly objectionable "foreign matter."

Again Fullergript Textile Brushes do a Better Job at Lower cost!

Here is a new success story — to add to the ones on Fullergript cotton-card brushes, Fullergript thread-dresser brushes, Fullergript dabbing brushes and other Fullergript textile brushes.

FULLERGRIPT WORSTED-CARD BRUSHES

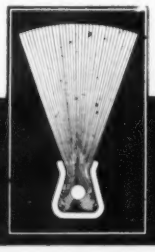
contribute to this impressive demonstration. Its tightly packed bristles push the wool — all the wool — down into the pins of the Morel clothing, leaving the burrs on top of the pins, free of fiber, ready for easy removal.

Fullergript brushes are proving helpful in three ways on worsted cards — as feed-roll brushes to start the wool properly in the teeth of the first lickerin, as Morel brushes to disentangle the burrs from the wool, and as Morel transfer brushes to carry the wool to the Morel roll and disentangle the burrs at the same time.

In all these applications the great density of the Fullergript bristles insures that the wool will be pushed into the clothing — not back into the brush! This means the brushes will not clog up rapidly, lose their efficiency and require cleaning — always a difficult, time-consuming job.

YES, its a new success story. Do you want to hear the others — on cotton-card brushes, for example? If so, write us and we'll gladly relate them to you.

Do You Want To Remove Burrs?
Look at the quantities pouring out of this worsted-card in a prominent New England combing plant.



FULLERGRIPT — *better work at lower cost*

The FULLER BRUSH Company

INDUSTRIAL DIVISION, DEPT. 8C

3594 MAIN STREET · · · HARTFORD, CONN.

THIS IS NO. 52 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

LUBRICATION OF UNIVERSAL WINDING MACHINES

SPECIFICATIONS OF LUBRICANTS

Careful laboratory tests and service experience by engineers of the Universal Winding Company have resulted in the establishment of a set of specifications for lubricants to be used on Universal machines.

By requesting from your oil supplier the lubricant with the proper characteristics for the use intended, you may reasonably expect more satisfactory performance from your equipment and longer life of all moving parts.

The five types of lubricants which are used in Universal machines are indicated by numbers in Table No. 1. Table No. 2 tells which lubricant should be used at each point and also recommends the ideal oiling schedule.

TABLE NO. 1

Specification	LUBRICANT				
	#1 OIL	#2 OIL	#3 OIL	#4 NON-FLUID	#5 GREASE
GRAVITY	28	23	25	27	
FLASH	370	360	500	400	
POUR °F.	10	-25	35	30	
FIRE	425	410	600		
S.U. VISC. @100°F.	120-140*	300		250-300	1050**
S.U. VISC. @210°F.	40-42	100	150		
NEUTRALIZATION	.01	0			
EMULSION	50	75			
COLOR	Max. #2	Max. #2		Amber	
CARBON	.20 Max.	.03 Max.	.30		
SOAP CONTENT				LIME 3%	LIME BASE
PENETRATION ASTM WORKED					300-350

*In England, 120-140 S.U. Visc. compares with Redwood Viscosity 110-120.
In Europe, 120-140 S.U. Visc. compares with Engler Viscosity 3.6°.
**S. U. VISC. of Oil @ 100°F. : 200-400

TABLE NO. 2 LUBRICATION SCHEDULES

How Often	Part	Lubricant Number (see Table No. 1)
	NOS. 6 and 8 MACHINES	
Every 8 hours	Gainer Pinion Shaft Bearings	1
Every 20 hours	Cam Groove	5
	Change Gears	5
Every 40 hours	Cam Shaft	1
	Loose Pulley	1
	Spindle	1
	NO. 10 MACHINE	
Every 48 hours	All Bearings	1
	All Pulleys	1
	Gainer Frame	1
	Gainer Pinion Shaft	1
	Cam	5
	Cam Shaft Pinion	5
	Gainer Pinion	5
	NO. 44 MACHINE	
Every doff Keep oil visible in oil cup	Tube Holder Sleeve	1
	Drive Heads	2
	Frames	2
Every 8 hours	Drive Head Ball Bearings	2
Every 40 hours	Builder Cam Lever	1
	Chains	1
	Conveyor Pulley	1
	Switch Roller	2
	Traverse Shaft Ball Bearings	2
Every 80 hours	Wood Cone Bushing	1
Every 120 hours	Franklin Holders	1
	Paraffin Disc Pin	1
	Cone Holders	4
	NO. 45 MACHINE	
Every 4 hours	Bijur System	2
Every 48 hours	Alemite Fitting	4
Every 120 hours	Gainer Case	1
	Spindle Clutch Pulley	1
Every 200 hours	Clutch	4

How Often	Part	Lubrication Number (see Table No. 1)
	NO. 50 MACHINE	
Every 40 hours	End Idler Pulley (Clutch Drive)	1
	Idler Pulley Arm	1
	Traverse Bar	1
Every 80 hours	Emulsion Drive Shaft Bearings	1
	Emulsion Drive Worm Bearing	1
Every 120 hours	Gainer Case	1
	Spindle Reservoir (Belt Gain)	1
Every 160 hours	Other Idler Pulleys (Clutch Drive)	1
	Emulsion Drive Worm Wheel	3
Every 500 hours	Spindle Reservoir (Gear Gain)	1
Every 6 months	Emulsion Roll Shaft Bearing	4
	Alemite Fitting	4
	Emulsion Drive Change Gear	5
	Emulsion Drive Sprocket Chain	5
	NO. 60 MACHINE	
Every 20 hours	Change Gears	5
	Cam Groove	5
Every 40 hours	Silent Chain	3
	Cone Holder	4
	All Other Gears	5
	All Other Points Not Mentioned	1
Every 80 hours	Clutch Grease Cup	5
Every 160 hours	Motor Oil Cups	2
Every 6 months	Drum End Bearing	1
	NO. 90 MACHINE	
Every 80 hours	Drive Shaft Bearings	1
Every 240 hours	Frames	1
	NO. 99 MACHINE	
Every 40 hours	Chain	1
Every 80 hours	Drive Shaft Bearings	4
Every 6 months	Chain Coupling	5
Ask for Chart	All Other Parts	1

*Reg. U. S. Pat. Off.

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UNIVERSAL WINDING COMPANY

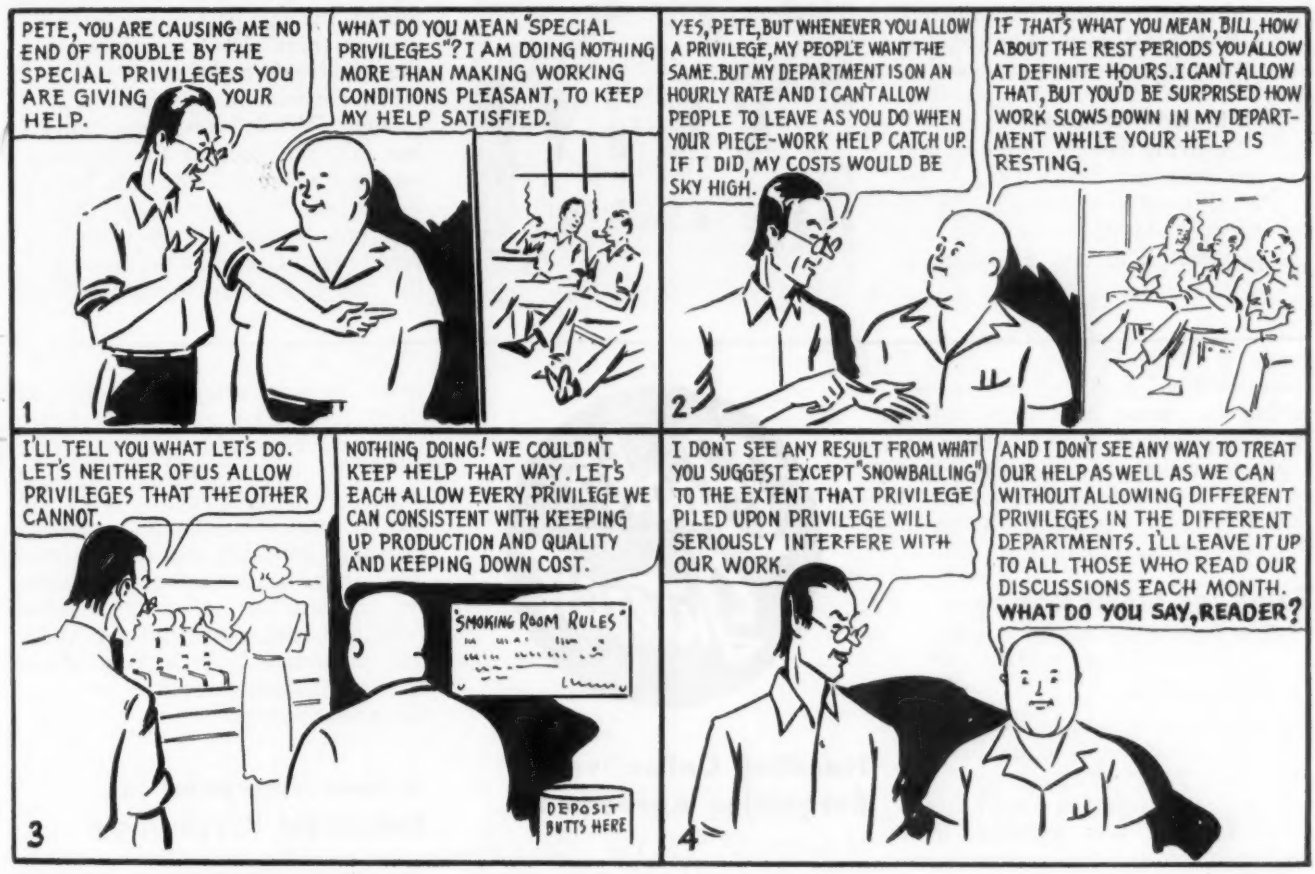
PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete and Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

Special or Uniform Privileges?

Can individual situations be considered for permitting privileges without the danger of "snowballing?"


PETE, YOU ARE CAUSING ME NO END OF TROUBLE BY THE SPECIAL PRIVILEGES YOU ARE GIVING YOUR HELP.
WHAT DO YOU MEAN "SPECIAL PRIVILEGES"? I AM DOING NOTHING MORE THAN MAKING WORKING CONDITIONS PLEASANT, TO KEEP MY HELP SATISFIED.
1
YES, PETE, BUT WHENEVER YOU ALLOW A PRIVILEGE, MY PEOPLE WANT THE SAME. BUT MY DEPARTMENT IS ON AN HOURLY RATE AND I CAN'T ALLOW PEOPLE TO LEAVE AS YOU DO WHEN YOUR PIECE-WORK HELP CATCH UP. IF I DID, MY COSTS WOULD BE SKY HIGH.
IF THAT'S WHAT YOU MEAN, BILL, HOW ABOUT THE REST PERIODS YOU ALLOW AT DEFINITE HOURS. I CAN'T ALLOW THAT, BUT YOU'D BE SURPRISED HOW WORK SLOWS DOWN IN MY DEPARTMENT WHILE YOUR HELP IS RESTING.
2
I'LL TELL YOU WHAT LET'S DO. LET'S NEITHER OF US ALLOW PRIVILEGES THAT THE OTHER CANNOT.
NOTHING DOING! WE COULDN'T KEEP HELP THAT WAY. LET'S EACH ALLOW EVERY PRIVILEGE WE CAN CONSISTENT WITH KEEPING UP PRODUCTION AND QUALITY AND KEEPING DOWN COST.
"SMOKING ROOM RULES"
DEPOSIT BUTTS HERE
3
I DON'T SEE ANY RESULT FROM WHAT YOU SUGGEST EXCEPT "SNOWBALLING" TO THE EXTENT THAT PRIVILEGE PILED UPON PRIVILEGE WILL SERIOUSLY INTERFERE WITH OUR WORK.
AND I DON'T SEE ANY WAY TO TREAT OUR HELP AS WELL AS WE CAN WITHOUT ALLOWING DIFFERENT PRIVILEGES IN THE DIFFERENT DEPARTMENTS. I'LL LEAVE IT UP TO ALL THOSE WHO READ OUR DISCUSSIONS EACH MONTH. WHAT DO YOU SAY, READER?
4

Letters From Readers

Against Women Section Hands

"Women as Section Hands"
(Pete & Bill, May 1945)

Dear Pete & Bill:

I will have to agree with Bill, that it would be a bad idea to use women fixers in a spinning room. First, because women can't boss women; second, it would be very hard to find a woman mechanically inclined; third, it would certainly lower the morale of the room. It may work well in aircraft factories but in textile mills, I don't think it would work out successfully. (PB502)

Never a Verbal Order!

"Written vs. Verbal Orders"
(Pete & Bill, Feb. 1945)

Dear Pete & Bill:

In the operation of a cotton mill verbal orders should never be given. That applies to all having authority to give orders, from treasurer to superintendent and to overseer. They should all be instructed not to accept verbal orders. This latter may at times put one in a rather uncomfortable position, but a well laid out system makes it comparatively easy. Every one should be supplied with regular order blanks in pad form, and should an order be given verbally the pad can be presented at once. It is an easy matter for the super, after discussing some matter with an overseer, to say, "Well go ahead with that matter," but he cannot refuse the order pad. Some may say "red-tape," but they are wrong, decidedly wrong; the system is a trouble-saver. It gives at once the reason why this or that, and who the responsible party is.

In a cotton mill each department is complete in itself insofar as authority is concerned. All departments operate under a policy established at the head office. Aside from the superintendent, there is no connecting or overlapping *authority*. There is, however, a decided overlapping *responsibility* between departments, and this re-

MEMORIES OF OLD MAN CARELESSNESS—By Martha B. Pittenger

No. 28—The Graveyard

Today I stood before a graveyard with my book of memories tucked under my arm. It looked like a real graveyard with a white picket fence around it. The markers at the head of each grave designated the type of accident by which the dead person had met his or her fate. This dramatic display was located on the lawn before a large Southern textile mill and many spectators from the mill gathered around it. The pages of my book of accidents recorded in full detail many of the accidents on the head stones before me.

A young woman standing near me remarked, "Why I think this is silly—this graveyard. What effect could it have on the employees? The age of fairies is gone!"

My fingers tightened as if to hold the pen that would soon jot down some kind of accident that would come her way, for she was one of my friends—the accident-prone employee.

Shortly—very shortly, that same young girl had an infected index finger, caused by a splinter picked up in the mill, for which she had failed to ask first-aid. Of course, she was the wise person; much too wise to think about accidents as she stood before the graveyard—much too wise to give first-aid a thought. While losing time from her job, she decided the graveyard was not such a silly idea, but that she was the one who was silly. She became one of my victims despite the graveyard object-lesson the mill had set up to warn her.

sponsibility will be placed in its proper setting by means of written orders. A superintendent or an overseer accepting a verbal order will know that he alone is responsible for results of that act should anything go wrong in its performance. (PB403)

Rules for Merit Rating

"Does Merit Rating Reduce Turnover?" (Pete & Bill, April 1945)

Dear Pete & Bill:

Merit rating reduces turnover; if the following principles are made basic to each merit-rating system:

1. Let all employees know that a record is being kept regarding their productive and personal performances.
2. Explain to the employees that advancement, financial and otherwise, is the purpose of the record.
3. Turnover will be lower if merit-rating records are honestly kept and discreetly applied when personal advancement is to be made.
4. Turnover will be lowered if merit-rating records are used to place workers in a higher wage bracket (if no piece work rates are in use).
5. Turnover will be less if bonuses are applied according to the records kept by the merit-rating system.
6. Replacement and reinstatement must be made in accordance with the records kept in a merit-rating system.
7. Records in a properly kept system will weed out the trouble makers, and help the earnest faithful workers. (PB501)

Books of Interest

Handling Collective Bargaining Agreements

MANAGEMENT AT THE BARGAINING TABLE, by Lee H. Hill and Charles R. Hook, Jr.; McGraw-Hill Book Co., 330 West 42nd St., New York 18; 296 pages; $3.00.

Few clearly defined patterns have been evolved in collective bargaining procedure, although the goal in all mills is to establish a sound and stable relationship between employees and management. The authors, both in industry, have drawn from their personal experiences and from their work on the National War Labor Board. Mr. Hill is vice-president of Allis-Chalmers Mfg. Co., and Mr. Hook, Jr. is secretary of Rustless Iron & Steel Corp.

This book is divided into two parts, the first covering the content of the collective bargaining agreement and the second covering the technique of collective bargaining. Items discussed in the first section are union protective clauses which include such material as voluntary vs. compulsory unionism, management protective clauses, employee protective clauses, seniority, grievance handling, and like material. The second section covers preparation for negotiations, actual negotiations, collective bargaining, and the WLB, and presents a large bibliography of reading material on the subject of labor relations.

A New Viewpoint in Industrial Psychology

EMPLOYEE COUNSELING, by Nathaniel Cantor; McGraw-Hill Book Co., 330 West 42nd. St., New York 18; 163 pages; $2.00.

This book offers a thorough study of the counseling movement in industry, and outlines the definite social and psychological theories underlying employee counseling. Also outlined are the training, skills, and procedures needed by the personnel consultant in reaching the real causes of employee dissatisfaction which are often psychological, out-of-mill problems involving emotions.

Actual industrial cases are used as illustrations. Sufficient data and information are provided to permit the setting up of an employee-counseling program in either a small mill or in one of large size.

Eriez

(Say EAR' EEZ)

NON ELECTRIC permanent MAGNETIC SEPARATORS

1. Recommended by Insurance Companies to prevent fires, machinery damage.
2. Simple, no wiring needed. Never sparks or heats up.
3. Low initial cost . . . no upkeep expense . . . costs nothing to operate.
4. Powerful Alnico Magnetic field lasts indefinitely . . . Always works.
5. Easy to install . . . light and compact . . . sizes available to fit present equipment.
6. Fully guaranteed. Permanent protection for your processing equipment.

CLEAN TRAMP IRON FROM *Textiles* IN PROCESS

Leading textile mills the country over report that powerful Eriez Permanent Non Electric Separators properly installed solve the problem of separating tramp iron from materials, permanently. Eriez magnets take no power to operate, are lower in cost than heavy, expensive electro magnets.

The magnetic strength of the Eriez easily penetrates a Thomas' Register or any solid thickness of seven inches. A series of Eriez Magnetic Plates installed in suction pipes is doing a remarkable job in many mills. Machinery manufacturers are successfully installing Eriez on cotton and wool feeders . . . the width of the suction pipe, conveyor unit, or feeding apron determines the size of the Eriez Magnet you need.

When installed so that swiftly blown materials are baffled against them, Eriez Non Electric Magnets provide much needed permanent protection to textile processing equipment. Many mill and factory Fire Prevention Bureaus and Insurance Companies have tested and approved Eriez Non Electric Permanent Magnets and recommend their use to eliminate the possibility of tramp iron getting into processing equipment, causing fires, machinery damage and loss of production time.

One nationally known textile mill recently installed two 12" Eriez Magnets between their vertical and horizontal separators. In two weeks time a pound of tramp iron was collected. They promptly equipped three additional lines and notified their other mills that Eriez units were doing the job for them.

Electric current in a line or unit may fail. An employee may forget to turn on a switch . . . An Eriez Magnet is permanent . . . never fails . . . it is always on the job. Many leading textile manufacturers use Eriez Magnets as standard equipment. New processing equipment can be equipped with Eriez Magnets. The cost of installing magnets is often lower than the cost of one machinery breakdown.

Backed up by a 10 year free service guarantee, thousands of Eriez Magnets are in use in the 48 states and throughout North America. Among the leading textile manufacturers using Eriez Magnets are Cannon Mills, Firestone Textiles, Wamsutta Mills, West Point Mfg. Co., Southern Mills Corp., Planters Cotton Oil Co., Talladega Cotton Factory, The Felters Co., Micolas Cotton Mills, Inc., Adelaide Mills, Durham Hosiery Mills, Opelika Mills.

For further information on this low cost protection just clip the coupon.

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★ *Accepted by the Textile and Dyestuff industry as the standard accelerated testing machines for determining the light fastness, weathering and washing qualities of materials.*

Weather-Ometer
Fade-Ometer
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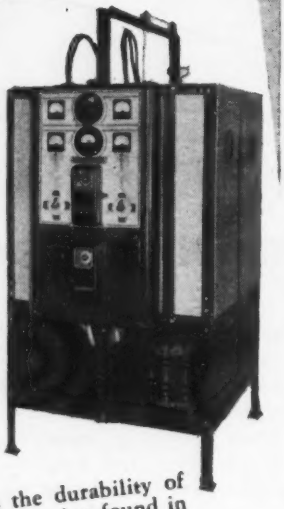
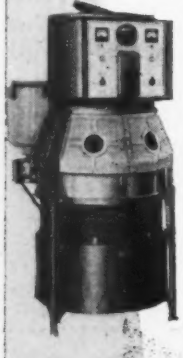
ATLAS *twin arc* WEATHER-OMETER



Faithfully duplicates the combined weathering effects of sunlight, rain, heavy dew and thermal shock; accelerated to reduce years of actual weathering to a few days of testing.

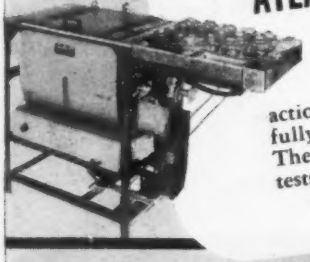
The new Twin-Arc Weather-Ometer is equipped to take large size textile specimens in order to meet the new Federal Specifications demanding accelerated weathering tests. Full automatic control of light and water periods is provided by the Atlas cycle timer unit which can be set to meet standard and special requirements of weathering tests. A direct reading thermal regulator, automatic shut-off switch and a running time meter are included as standard equipment. After setting exposure cycles on the control panel the Weather-Ometer can be safely left in continuous operation overnight without attention except to replace carbons once in 24 hours.

The Atlas Weather-Ometer proves the durability of materials under exact conditions of weathering found in actual use in outdoor exposure.



ATLAS FADE-OMETER

The recognized standard testing machine for determining the fastness to light of dyestuffs and dyed fabrics. Specimens are rotated around the Atlas Enclosed Violet Arc—the closest approach to natural sunlight—in masked holders. Automatic temperature control to within ±3° F. and humidity regulated by a constant reservoir according to requirements of tests. Operation is completely automatic without attention from operator; can be left in continuous operation overnight.



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The standard laboratory washing machine of A.A.T.C.C. for testing color fastness, staining, shrinking, resistance to washing and mechanical action. All factors including washing action can be carefully controlled and reproduced identically at any time. The new preheating loading table increases accuracy of tests by starting all samples at uniform temperature.

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Originators and sole manufacturers of accelerated testing devices for over a quarter of a century.

Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Can Spindle Insert Over One Turn per Revolution?

Can a spindle insert more than one turn in a yarn for each revolution it makes? This question came up during the comments received by TEXTILE WORLD following the publication of a false-twist device that was supposed to increase the twist of the yarn. (*R-118*, March issue)

There is a way to insert more than one turn per inch in yarn for each revolution of the spindle. Round Table will pay for and publish the best sketches and answers as to how this can be done. Sketches need not be finished drawings but should be clear. *(R-163)*

Relationship Between Jobs Should Be Stressed

There is a need in many mills for more conferences to help bring out the relationship of one job to another. Each foreman, in a good many mills, is living in a world to himself and does not realize that what he does to merchandise may be harmful in the next process. Although the superintendent normally takes care of this, his knowledge of all branches of manufacturing

Dead Center

MADE BY
DENMAN TIRE & RUBBER CO.

MANUFACTURERS OF
THE FAMOUS
DENMAN LOOP PICKERS

PATENTS *Make Jobs*

It is possible to nail the target dead center occasionally, by accident, but continuous bullseyes mean one thing . . . . marksmanship.

Similarly, the dimensions of one picker may be correct, but the center-to-center distance on ALL pickers must be identical to assure that essential quality . . . uniformity.

Every Denman Pioneer Box Loom Picker is

INDIVIDUALLY MOLDED.

By being individually molded, it achieves uniformity of weight, dimensions and resiliency. Its final test is year-in and year-out use. In this test it holds a challenging record. The record is . . .

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For instance, a Midwest manufacturer must retool almost in a matter of hours or lose a contract for a new radio part. So he wires Connecticut for new tools via Air Express and has them in the morning. He pays $45.15 Air Express charges, but makes over one thousand dollars on the contract he saves.

Specify Air Express-High Speed for Low Cost

To prevent tie-ups or shutdowns, save man-hours, gain production time, serve customers — these are some of the reasons why you will find the speed of Air Express economically important to your business.

Shipments travel at a speed of three miles a minute between principal U. S. towns and cities, with cost including special pick-up and delivery. Same-day delivery between many airport towns and cities. Rapid air-rail service to 23,000 off-airline points in the United States. Direct service to scores of foreign countries.

AIR MILES	2 lbs.	5 lbs.	10 lbs.	25 lbs.
250	$1.04	$1.25	$1.57	$2.63
500	$1.11	$1.52	$2.19	$4.38
1000	$1.26	$2.19	$3.74	$8.75
2500	$1.68	$4.20	$8.40	$21.00

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cannot be sufficiently detailed to guard against all possible damages; and again, some foremen hide what they are doing. Constant and regular conferences between foremen—and open, frank discussion of their problems—would be a big help in this matter. *(R-160)*

Methods of Training Should Be Discussed

At present, some mills are setting up textile machines in rooms away from the regular production jobs and using them for teaching beginners. Under present conditions, the worth of any training program is measured by its capacity for making full-scale-production employees from raw recruits in the shortest time and at the lowest possible cost to the mill.

My question is, which method—the separate training room or training on the actual job—will develop a competent spinner, doffer, or weaver the quicker and cheaper? Which method is apt to influence the worker to stay on the job? Will putting him in the big-production room frighten him away at the start, or will he more quickly orient himself there than in the separate training room?

I should like some discussion of the question in Round Table. *(R-164)*

Twisting Device Suggested To Supersede R-118 Idea

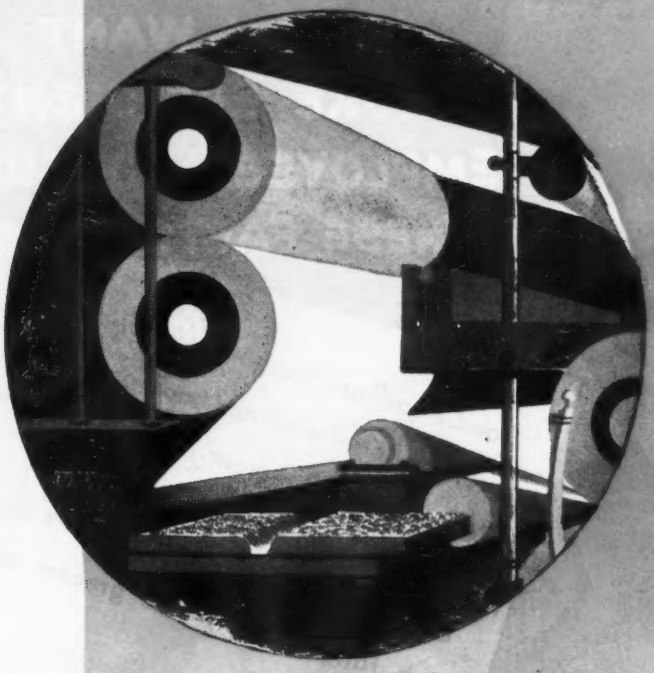
Referring to the device for adding twist as illustrated in the Round Table, March issue, my contention is that the device will not impart additional twist.

To impart twist to a yarn, it is necessary that both ends of the yarn be positively held at any given instant that twisting is taking place. In the device illustrated this condition is not met because the yarn moves freely through the rotating guide. Apparently the inventor tried to substitute for a positive grip on the yarn by devising an offset. The offset would not add twist because the guide merely rotates around the yarn. If, for example, the device did positively grip the yarn; and, as stated, it rotated in a direction opposite to that of the spindle; no twist would be added for the reason that for every turn of twist inserted between the device and the spindle, one turn would either be removed or inserted in the opposite direction between the device and the front roll.

It was mentioned that for similar devices it has been claimed that for each revolution of the device two turns of twist are imparted. This is

ONE OF 19 DOW CHEMICALS USED BY THE TEXTILE INDUSTRY

mold is generally all wet!



HOW DOW FIGHTS MOLD ATTACKS

Water—indispensable to man—nevertheless causes many manufacturing headaches. Under certain conditions, it encourages the growth of mold—destructive mold that constantly harasses production in many industries.

In one step of paper making, for example, the wet pulp mass that eventually becomes finished paper is carried on felt belts and squeezed partially dry between rollers. Being subjected to constant dampness, the felt is up against continual mold attack.

Dow research men tackled the problem and came up with Dowicide—a germicide and fungicide that increases wet felt life as much as forty to sixty per cent. Paper manufacturing has benefited immeasurably.

Furthermore, Dowicide products have helped paper producers combat other mold attacks . . . they have aided in slime control, in preserving log and pulp stock, in making packaging papers mold resistant, in reducing maintenance costs.

Similar mold problems in the textile, lumber, paint, and other industries are being successfully reduced by a Dowicide specifically designed for the job. If you are bothered by molds, fungi, bacteria, or termites, write us to find out how Dowicide can help you.

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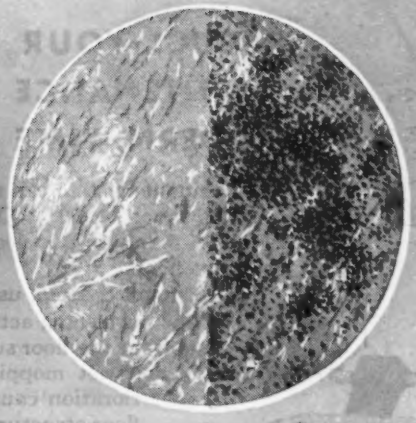

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Germicides and fungicides

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

IF YOU WANT MORE EFFICIENT EMPLOYEES CONSIDER THESE FACTS –
Good, clean hard floors improve efficiency, produce better work and boost production.
Non-slippery, dry, wear-resistant floors reduce accident hazards.
Clean, bright, light-reflecting floors reduce job fatigue and create greater worker interest.
REDUCE YOUR FLOOR MAINTENANCE COSTS WITH THIS MODERN, TIME SAVING SYSTEM.
The Tennant System can reduce your floor maintenance costs as much as 50%. Only a fraction of the time is required to give you clean, hard, non-slippery, wear-resistant floors.
The Tennant System, using a technique of "dry cleaning" by the burnishing action of steel wool, removes dirt and grime from the floor surface. It eliminates outmoded scrubbing and wet mopping; it saves floors from deterioration caused by water soaking into the floor structure.
It cuts replacement and repairs of top flooring to a minimum and will transform dark, dingy, fuzzy floors into smooth, hard, long wearing surfaces. Good, sound floors result in better working conditions and greater production in all mill departments.
WRITE TODAY for Tennant's new book "Your Floors Are Important to Your Mill's Production"
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The way to finer floors
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possible if the following conditions are met:

1. The rotating guide must be a device which positively grips the yarn while at the same time delivering the yarn at the required rate of speed.
2. The guide must rotate in the direction of the spindle and at the same r.p.m. as the spindle.
3. The guide must deliver the yarn to a fixed pair of rolls, which, in turn, deliver the yarn to the spindle.

To add twist in addition to the amount inserted by the spindle, the twisting must take place as a separate operation between two fixed points; e.g., the front roll and the pair of delivery rolls mentioned. If the pair of rolls are not fixed between the device and the spindle, the spindle and the device will merely run in tandem; and no additional twist will result.

In a device meeting the above requirements, one turn will be inserted between the front roll and the fixed pair of rolls located beneath the device; while the other turn will be inserted in conventional manner between the spindle and the fixed pair of rolls.

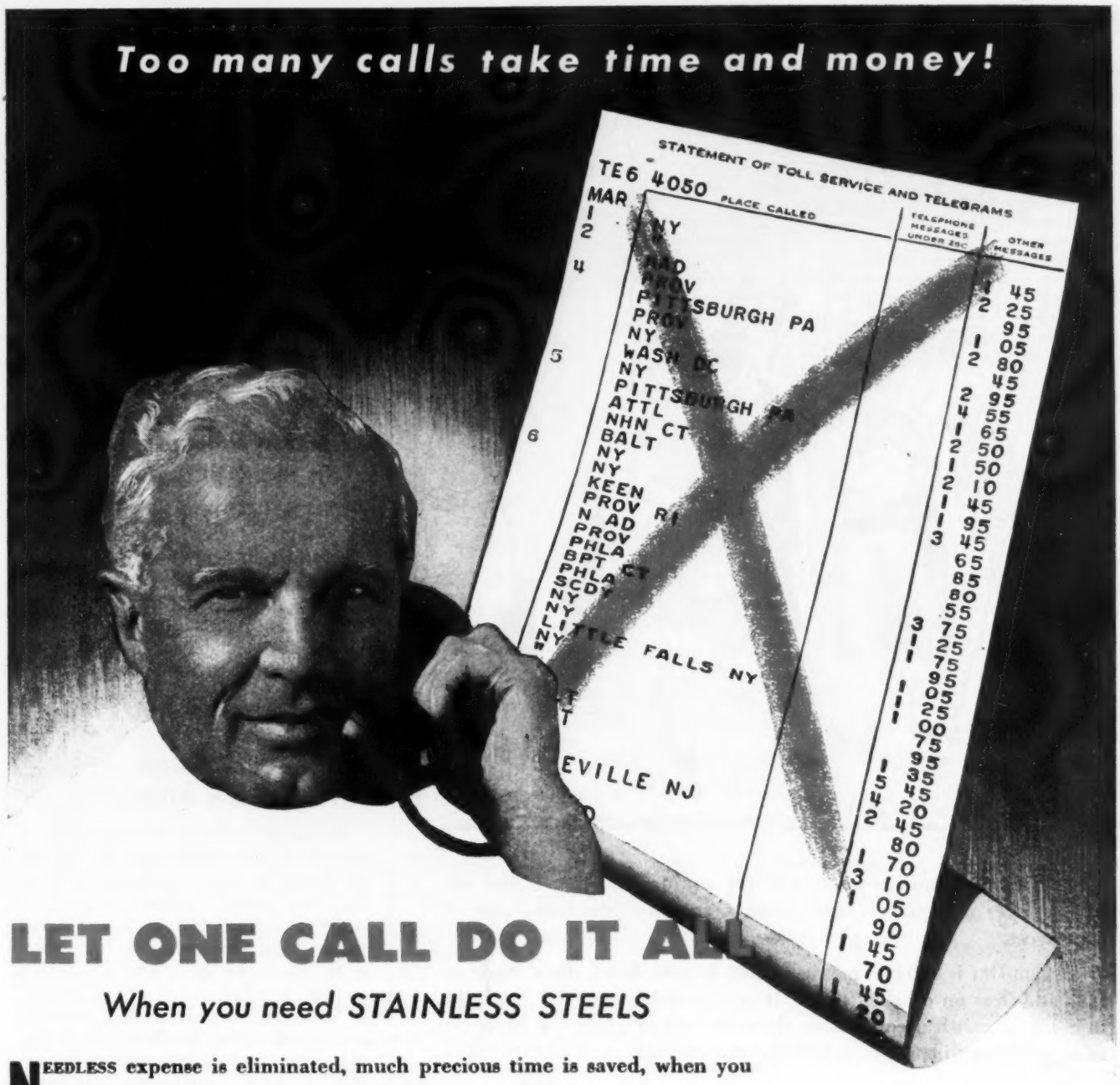
Such a device, while a possibility, would be too costly; and because of the nature of the device, changes in twist could only be accomplished by complicated and time-consuming methods. A rotating guide to fulfill all conditions would probably consist of a pair of small rolls mounted horizontally which, as well as being geared to deliver the yarn, would rotate as a unit to twist the yarn. This would necessarily be a complicated device with much gearing and precision parts involved. *(R-144) J. Cranston Gray*

Pride of Workmanship Seems Forgotten Factor

What ways and means do the various mills use to instill pride of workmanship in their help? For example, how do they get weavers to turn out only good cloth instead of cloth with mispicks and doubles? Too many weavers seem to be interested only in total picks produced, with no regard for quality. With the labor shortage that we have now, I wonder how others get the proper results without losing their help. *(R-165)*

Neps in Card Web Still a Problem

We would be interested in seeing some discussion in this department [Round Table] on the subject of "The Effect of Card Speeds on Neps." We



LET ONE CALL DO IT ALL

When you need STAINLESS STEELS

NEEDLESS expense is eliminated, much precious time is saved, when you telephone Industrial *first*. For Industrial carries the largest, most diversified stock of Stainless Steels in America.

With its vast inventory—everything in Stainless, from sheets and bars through tubing and wire, to valves, fittings and even bolts and nuts—Industrial is in the unique position of being able to give *same-day attention* to your order. And the odds are in your favor that your order will be filled *completely* . . . as well as *promptly*.

Now, more than ever, it's important you let one call do it all when you need Stainless Steels. Besides saving time and money, you'll be giving the boys and girls in uniform a break . . . for they keep in touch with home by telephone.

Remember . . . if it's Stainless, Industrial has it. And if you have a problem regarding specification or fabrication, Industrial's expert metallurgists are at your service. For speedy handling of your complete order, call Industrial first! INDUSTRIAL STEELS INC., 250 BENT STREET, CAMBRIDGE 41, MASS.

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EVERYTHING IN STAINLESS

INDUSTRIAL STEELS, INC.

OUT OUR WAY

WHY, THIS IS SO LIGHT AN' CLEAN THAT I WOULDN'T MIND WORKING HERE MYSELF! I ALWAYS THOUGHT SHOPS WERE TERRIBLY DIRTY, OILY, GREASY PLACES!
THEY WERE, LADY-- BUT THAT WAS BEFORE SPEEDI-DRI!
"JUST LIKE HOME"
J.R.WILLIAMS
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SPEEDI-DRI is a quadruple-threat for taking up grease and oil . . . it saves man-power, time, money, and the lives and limbs of employees.

SPEEDI-DRI is safety's magic carpet. It cuts down the danger of falls and fires on oil-slick floors. It is a granular material . . . light in color . . . with a continuous thirst for oil or grease. It blots oil and grease up out of pores, cracks, and crevices, as a blotter takes up ink.

If you're spending too much man-power and money on floor-cleaning, let us show you what SPEEDI-DRI can do for you. No gangs of trained men, no costly machines, no inflammable solvents or dangerous caustics, no back-breaking scrubbing. Just spread a carpet of SPEEDI-DRI on the dirty floors; then sweep up with an ordinary broom. Floors will be bright, bone-dry, non-skid.

For a big FREE sample, write today . . . SPEEDI-DRI for oils and greases . . . SOL-SPEEDI-DRI for coolants, syrups, acids, oils, etc.

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West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

SPEEDI·DRI
OIL AND GREASE ABSORBENT

are carding rather heavy, about 17 lb. per hr., using 1-in. cotton, with a mix composed of middling, strict low middling, and middling-color strict-low-middling-leaf; and our neps seem to be entirely too high.

Has any reader made any experiments which will help us? What would be the effect if we changed the production gear to slow the doffer, say 20%, and increased the over-all speed of the card to get approximately the same production that we are now getting with the higher doffer speed? *(R-166)*

Would Avail Industry of In-Plant Suggestions

The method of getting suggestions via the employees' suggestion boxes has turned up many worth-while ideas since the demand for war production hit the mills. The textile industry could profit greatly by all the individual plants making the suggestions received from their employees available for the benefit of the industry. *(R-162)*

Will Reconversion Hit All Plants Alike

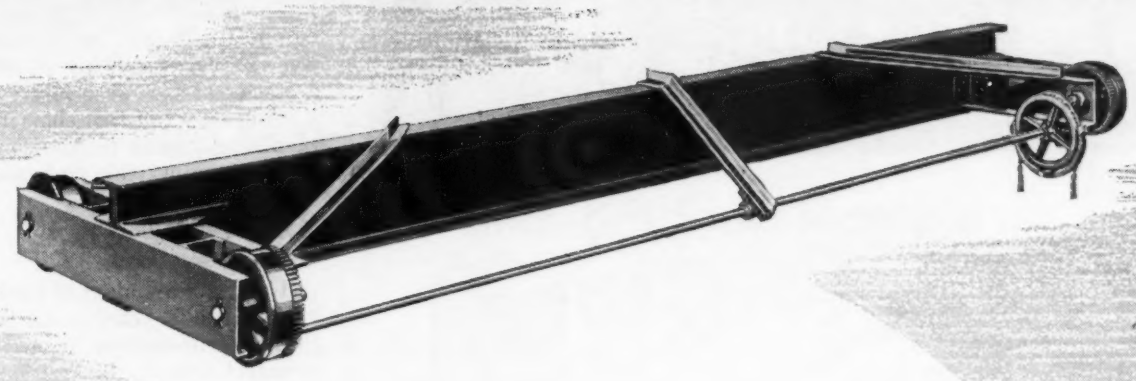
Some time within the next year, I believe we shall enter into the period of changing from government work back to prewar civilian lines. If a plant is engaged 100% on war work, making suitings, etc., for the Army or the Navy, I wonder how it will fare in the so-called reconversion period. Is the woolen and worsted industry as a whole doing anything about trying to maintain a balance so that all may have an equal chance to come through; or when the time comes will it be the fellow who played both ends and the middle that gets the break? There must be a happy medium somewhere. *(R-161)*

Giving Credit Due Breeds Good Will

If a mill has a successful year, there is credit enough for all connected with it in an official way. The treasurer is considered a successful business man, the superintendent an efficient manufacturer, and the overseers good managers.

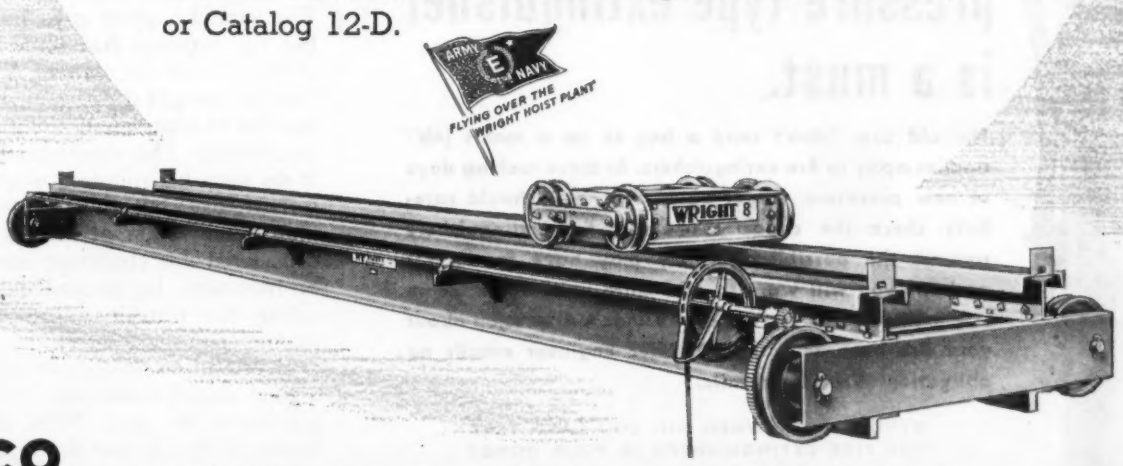
But quite frequently when considering things in an official way, the credit stops with the first consideration. It may possibly pass on to the second, but there it usually ends. Now, it may be that a sugestion from an overseer had quite a bearing on the gen-

WRIGHT CRANES



THINK what an overhead traveling crane, with a **WRIGHT HOIST** and **TROLLEY**, could do—when it comes to moving machinery around, or in and out, in that reconversion job that is just ahead. A **WRIGHT TRAVELING CRANE** would really put your ceiling to work, and speed up not only reconversion but subsequent civilian goods production as well. The **WRIGHT** combination of crane and hoist would help bring your production costs down to competitive levels.

WRIGHT material handling equipment (cranes, hoists and trolleys) is built in any desired capacity and to meet the most exacting specification. If your problem is special, ask local **WRIGHT** distributor (see metropolitan classified telephone directory) to call in a **WRIGHT** engineer. In the meantime, write for **WRIGHT** Specification Bulletin, or Catalog 12-D.



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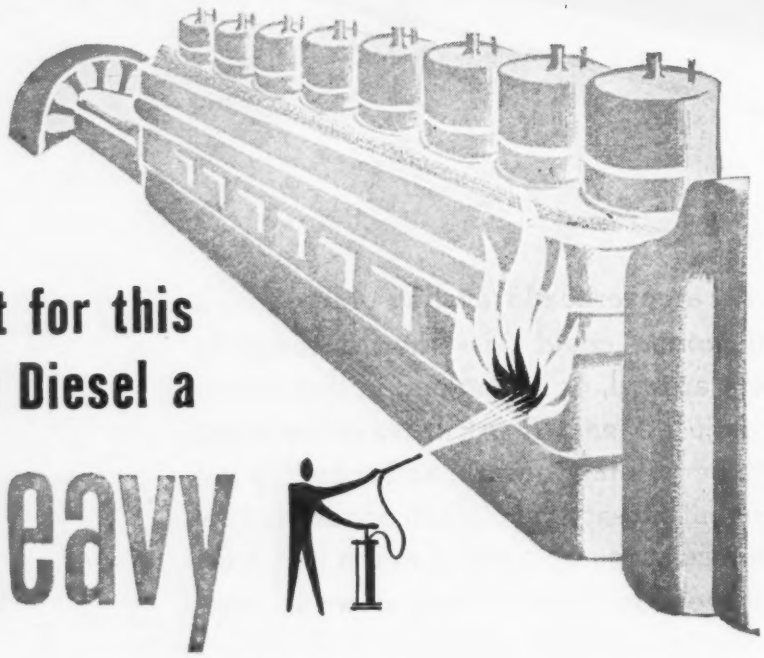
For a small motor fire which might build up to a big blaze a one quart is ample protection.



But for this big Diesel a

heavy duty pyrene

pressure type extinguisher is a must.

The old saw "don't send a boy to do a man's job" applies aptly to fire extinguishers. In these rushing days of new processes, larger equipment, you should carefully check the capacity of your fire extinguishers against the possible job they may have to do. Or perhaps you will want to add more units of the same size extinguishers you are now using. A discussion about your fire hazards with a PYRENE Engineer entails no obligation. Write for details.

BY THE WAY, WHEN DID YOU LAST TEST THE FIRE EXTINGUISHERS IN YOUR HOME?

Standardize on Reliable Equipment by Pyrene

Pyrene Manufacturing Company

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eral manufacturing conditions which made the success possible. The superintendent could well advise the higher officials of the part played by the overseer. It would in no way detract from his standing. As a matter of fact, it would strengthen it. And an act of that character would be a long step in building up a loyal attitude among the rank and file of the operatives.

The following are two concrete cases:

The superintendent of a mill, which was built some years earlier and added to from time to time, wished to make several changes in the location of some of the machinery. In one department, the superintendent talked matters over with the overseer as to various machine arrangements and the savings which might be expected from them. When the change was nearly completed, the overseer gave the superintendent a written proposal as to what he would like to try, reserving the right to make some corrections which might be found necessary. It was a radical departure from what the superintendent had thought advisable. However, permission was granted with the understanding that any changes found necessary should be given joint consideration. The overseer carried out his plan successfully. Here was cooperation at its best, for which due credit was given; and it had a stimulating effect throughout the organization.

The second case was of a little different character. The treasurer of a certain mill asked the superintendent why a particular yarn, which at the moment was having quite a run, was so difficult and expensive to make. The superintendent gave his answer, but the treasurer had some thoughts of his own on the matter. A few days later he brought it up again, and it was decided to experiment along a line he mentioned. The superintendent took it up with his spinning overseer as a sort of joke, but the spinner took a more serious view of the matter. He considered it a challenge; and a week or two later, he succeeded in duplicating the yarn in a less expensive manner.

It proved to be a great success and a good money-maker until other mills got on to the idea. Now, the main feature of this is that the superintendent told the treasurer the whole story, especially the part played by the overseer, and later the treasurer recognized the part which the superintendent and the overseer had played by obtaining a generous bonus for them.

All working faithfully towards the same end should be the intent of all

Type WMK Enclosed Safety Switch

CONDULETS

are rain-tight. You can use them in both indoor and outdoor locations.

Safety. Positive interlock prevents opening the case unless switch is "off." Dead front switch is held in "off" position while case is open.

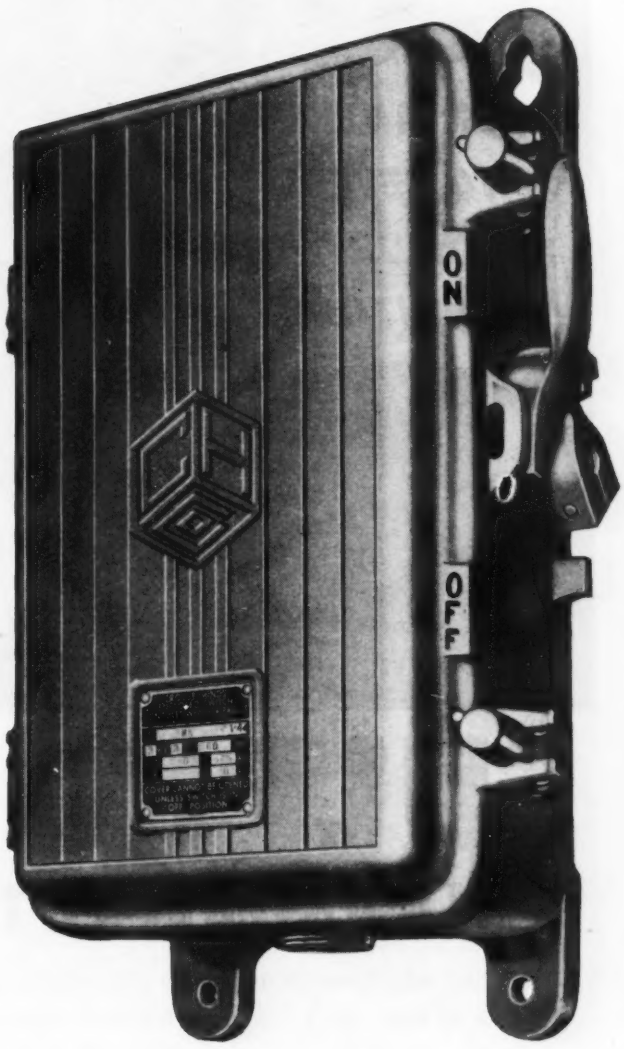
Switches. Quick make and break mechanism. Double break, reinforced, positive pressure-type blade and jaw construction. Positive pressure fuse clips. Combination solder or solderless wire lugs.

Cast metal case. Strong and durable. Four sturdy mounting feet. Many possible threaded hub arrangements for both vertical and horizontal conduit. Cover may be padlocked to prevent unauthorized entry. Operating handle may be padlocked "on" or "off."

Permanent lubrication in the threaded operating shaft bearings resists corrosion and prevents the entrance of dust and moisture.

Horsepower ratings. 2 through 50-H.P. 30, 60, 100 or 200-ampere. 230-575-volt A.C. 250-600-volt D.C.

Listed in Condulet Catalog No. 2500, Section 50, Page 20.



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SULPHO HAND CLEANER

WILL NOT DEFAT THE SKIN

For those who have naturally dry skin and for those who must in the course of their work dip their hands in solvents, degreasing compounds and similar materials, West offers this new special type of hand cleaner. Due to the nature of the product, it has an almost neutral pH. Sulpho Hand Cleaner is manufactured from the highest quality sulfonated castor and vegetable oils but its cost compares favorably with other products of lesser efficiency.

Especially recommended for women workers. • Send for FREE booklet

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mill organizations. An "Order of the Day" is not required; just a quiet suggestion. *(R-154)*

Greater Cooperation Needed in Textiles

I am convinced that the textile industry would profit greatly by closer cooperation between the various phases of manufacturing and finishing. The wool comber, for example, should render fibers with a chemical that will keep bacterial count down to a minimum. Failure to do this results in gray goods which the dyer finds difficult to dye or finish. An educational program along this line is indicated. *(R-158)*

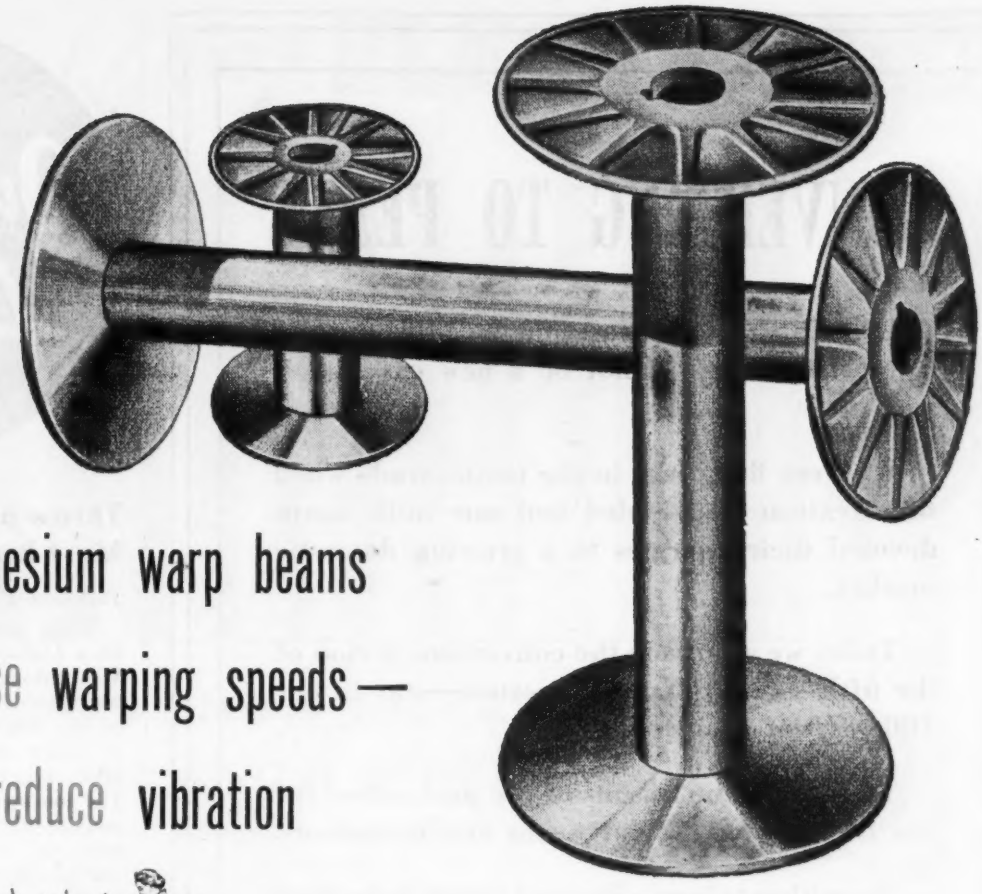
Reader Looks for Articles on Synthetics

I am not in the mill end of the textile business, but I can see that this part [Round Table] of your magazine should be very beneficial to those in the operating end of the business.

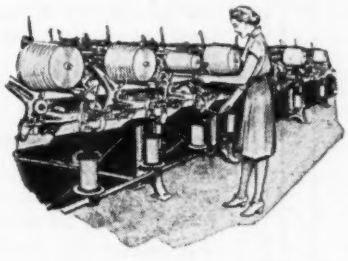
My chief interest in TEXTILE WORLD centers around your articles on synthetic yarns and their development. You are doing a good job on that. This is going to be a very important field after the war. *(R-156)*

Conferences Can Lead to Closer Cooperation

After reading TEXTILE WORLD'S Round Table, I think it is the place to enter a plea for one of industry's most valuable and neglected assets—a combination of the knowledge of the older employee and the education and enthusiasm of youth. Today, when the older employee leaves the industry, his knowledge goes with him. It should be made available to all. How often is the older man forced to watch the young man struggling with some problem; and through shop politics or other reasons, he is not allowed to contribute the answer? Not overlooking the fact that the young man many times sees things the older man misses, it seems to me that if management were to encourage the greatest cooperation between these two elements, much good would be accomplished. If every man with 25 or more years' experience were to contribute one worth-while idea, I feel sure the textile industry would be richer. In the competitive days ahead, the rewards will go to the manufacturer who takes advantage of all worth-while ideas. *(R-163)*



Magnesium warp beams increase warping speeds— reduce vibration



Lightweight precision parts make textile operations smoother

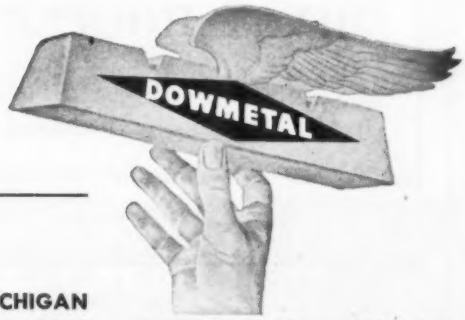
Up-to-the-minute cost-saver and production-booster in the textile industry is strong, lightweight magnesium: *the metal of motion*. The very qualities always demanded in the moving parts of weaving and knitting machinery—extreme lightness, precision, resilience, strength—are yours in magnesium to a degree found nowhere else.

Knitting machine warp beams made from magnesium give you less vibration, smoother operation, higher speeds, lower shipping costs and easier handling.

In loom parts, magnesium makes it unnecessary to sacrifice strength for vital lightness and resilience. Common failures of non-metallic parts—cracking, splitting, distortion—are not encountered: Magnesium offers the necessary weight-economy with vastly greater strength.

The Dow Chemical Company, pioneer producer and fabricator of magnesium—lightest of all structural metals—has spent more than a quarter-century in development work. For further data, write the nearest Dow office.

MAGNESIUM



THE METAL OF MOTION

MAGNESIUM DIVISION, THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

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CONVERSION to peacetime production and distribution will not be a new experience with us.

We were fledglings in the textile trade when the Mexican War ended and our mills again devoted their energies to a growing domestic market.

Today we approach the conversion period of the fifth—and by far the greatest—war in our 100 years of business life.

To say that the lessons of the past suffice for the future would be arrogant and dangerous.

But without them—learned through the hard schooling of experience and given definition and value by analysis—guidance could only come from trial and error, alike costly in time and money.

The mills which we represent as selling agents have at their disposal all the knowledge we have accumulated about the sale of textiles. They have the benefit of an organization with well staffed offices in important markets. They share our contacts with sources of supply, with financial interests, with marketing and advertising authorities. We are partners in the profitable production and distribution of cotton textiles. With them, we will advance together in restoring a peacetime economy.

MINOT HOOPER & COMPANY

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Throw of Shuttle Must Be Straight

Technical Editor:

When putting in a new set of shuttles on a Crompton and Knowles 25-harness W3 Automatic Loom, we experience a gouging-out on the top edge of the back of the shuttle which extends about 11 in. when starting and finally goes the whole length after running a few weeks. The gouging-out is more severe just as the nose of the shuttle enters the box, and takes on a bevelled formation. Could you give me any information regarding the cause of and remedy for this trouble? (9049)

This complaint is quite common and is usually caused by the shuttle lifting and turning, which allows the back wall to come in contact with the box shelf or, on the magazine side, the box back. To remedy this condition, make sure that the new shuttles throw straight. When installing new shuttles, either change the pickers if they are badly worn, or gouge out the old hole so that the point of the shuttle will have a chance to make its own seat. Too much power will also cause the shuttles to throw crooked. Shuttles should always be matched as to weight and size. As a rule, you can hear the shuttle strike the box if it is not throwing straight.

Cotton Slasher Used For Silk-System Warps

Technical Editor:

Will you please advise us if a warp made on the silk system can be run successfully on a cotton-system slasher?

The men we have contacted on this subject say that the distance from the last drum to the beam is too far to run a silk-system warp on the cotton-system slasher. In other words, when you are running a cotton slasher you also have to keep a silk slasher to run any warps made on a silk-system warper from the yarn which is left from the lots run on the cotton-system warper.

Will you please advise the general prac-

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WELDERS KNOW THEY'RE *Uniform*

...WE KNOW WHY...

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We know *why* they're uniform. It is because of our rigid control of every manufacturing process—from drawing the wire to final inspection of the finished electrode . . . constant check on wire and coating . . . frequent tests under actual working conditions.

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★ ★ ★

In addition to a complete line of stainless steel, your **PAGE** distributor offers a wide range of **PAGE** Hi-Tensile electrodes and gas welding rods. The benefit of long experience in selecting the one best rod for each welding job is yours when you

Get in touch with Page!

Welding Stainless Steel? *This booklet contains much new, up-to-date information on the subject. Ask your* **PAGE** *distributor for a copy. Or, if you prefer, write to the factory in Monessen, Pa.*

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ACCO TRADE MARK

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE

When Modernizing Your Plant

Include Washroom Improvements

Post-war competition will be keener than it was in pre-war days.

This means competitive conditions in selling your products at right prices—and you will have to compete with other plants for the best workmen.

If your washroom facilities are old style or inadequate, the better class of workmen who are accustomed to the many Bradley Washfountain-equipped washrooms will pass you up . . . They like the clean, sanitary, time-saving Bradleys.

Get These Advantages

Eight to 10 wash simultaneously, saving time.

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Each person washes in clean *running* spray of water—reducing chance of contamination and Dermatitis.

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Each Bradley replaces 8 to 10 "single-person" wash basins. Cuts water consumption 70%, reduces piping connections 80%, and one central sprayhead takes the place of 16 to 20 faucets.

•

Less janitor work and maintenance, fewer repairs.

More Mills Are Installing Bradleys Now

Added to the textile plants that have been modernizing washrooms are—Ponemah Mills with 11 Bradleys; Livingston Worsted with 7; Dan River, 3; American Yarn, 6; Whittier Cotton, 3; Spindale, 4; Shefford Hosiery, 8; Priority, 11; Patterson, 12; Pacific, 10; Mohawk, 7; Clinton Cotton, 5; Barnettsville Cotton, 6.

Installations during the last year have increased rapidly. *Now* is a good time to provide washroom facilities in line with the latest sanitary requirements...Catalog 4308 will help. Just let us know to whom to send a copy. BRADLEY WASHFOUNTAIN CO., 2325 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY *Washfountains*

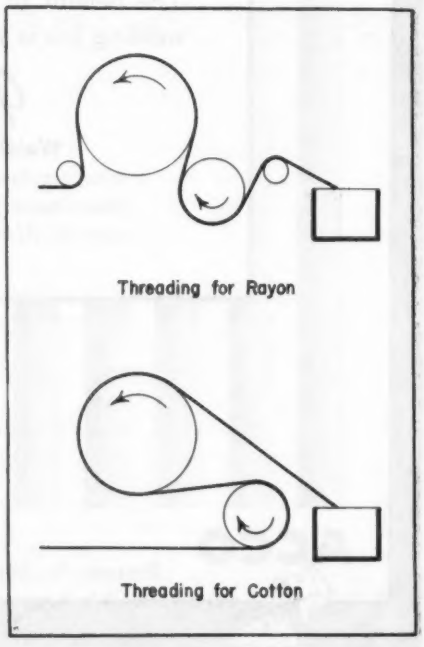
Write today for Catalog 4308 and Washroom Survey Sheet.

tice in dealing with the remaining yarn left from the cotton-system warping? (9051)

Although rayon sizers have definite advantages for slashing rayon yarns, there is no practical reason why rayon warps made on either the cotton or silk system cannot be run on a cotton slasher. If acetate is being slashed, the problem is one more of the size box than the drying cylinders as indicated in your question. Of course, the threading of the cylinders is different for slashing rayon than for slashing cotton as can be seen in the accompanying sketch. This manner of threading makes the distance from the last drum to the beam no greater than is the case with a regular rayon sizer. Of course, you do not cover as much of the surface of the cotton-slasher drums; but in actual practice, good drying speed can be obtained with this threading.

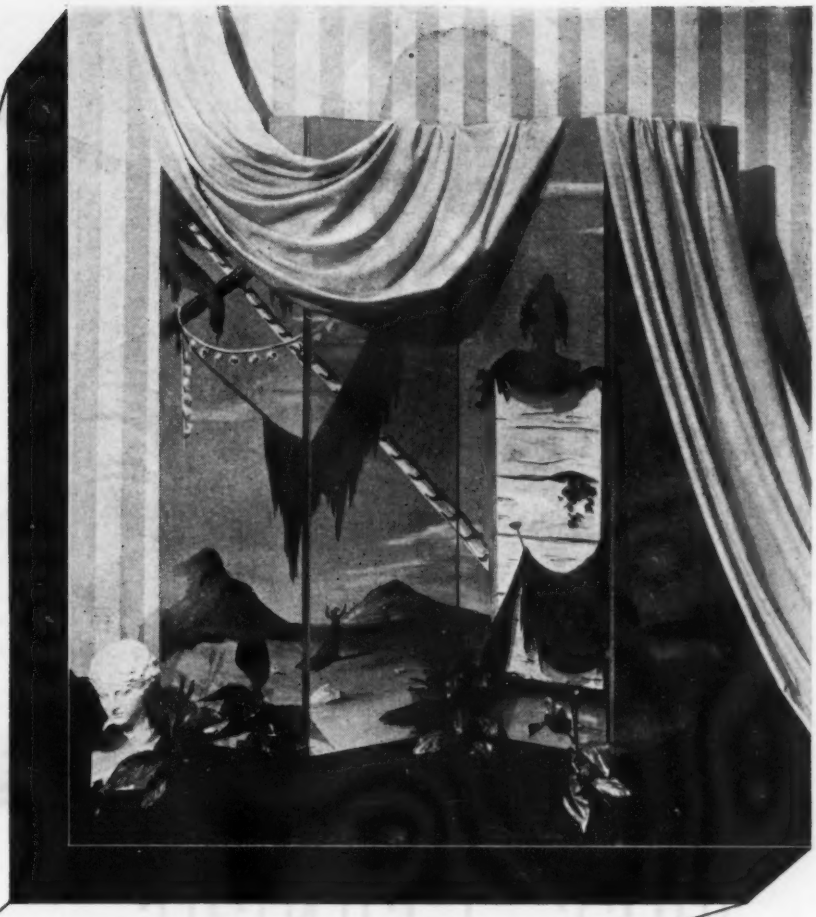
Going back to the matter of the size box—if acetate, of course a closed coil or jacket should be used to heat the size. A closed coil or jacket is also preferable for slashing viscose rayon but is not as necessary. Open coils work quite satisfactorily.

There is no one method of dealing with yarn remaining from the cotton system of warping. There have been occasions when such yarn has been warped down to less than 30 lb. of yarn which was subsequently overtinted (so it would not get mixed) and used as selvedge yarn in later



To run rayon on a cotton slasher, reverse the sequence of threading the drums to decrease the distance from the last drum to the take-up beam.

WINDOW OF TEXTILE TOMORROW



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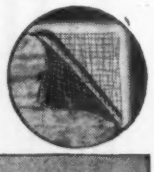

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warps. A better method, however, is to use up this yarn as a filling lot, if this is possible. Evidently you have some Swiss horizontal warpers which, of course, you know can be used to make up a warp from a very small amount of yarn such as would be left from cotton system warping.

There is another possibility, although not a profitable one. It is that of selling tailings of yarn to dealers who buy and sell odd lots.

Can Plied Yarns Be Untwisted Economically?

Technical Editor:

We have some 30/2 dyed light pink and light yellow on tubes, skeins, and spools. We would like to get all of this yarn in single ends. Can you suggest a method for separating the ends?

We have had 350 lb. of 150-den. yarn dyed and wound on spools, ½ lb. to a spool, and sent it to a party to make warps which he has sized. Our return on the 350 lb. is a few pounds less than 300. The party making the warp states that the sizing would reduce the weight of the yarn 52 lb. (9052)

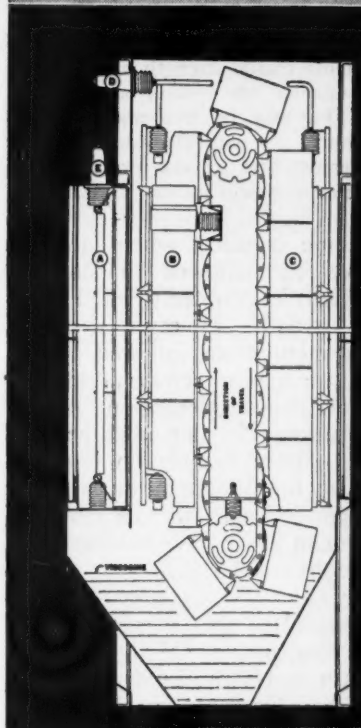
A ply yarn such as mentioned can conceivably be split up into single ends by putting it on a spindle which would remove the twist at the same time that the single yarns are taken up on slip-driven friction take-up spools. This, however, would undoubtedly be more troublesome and costly than the yarn is worth, and equipment to perform the operation would have to be made up specially.

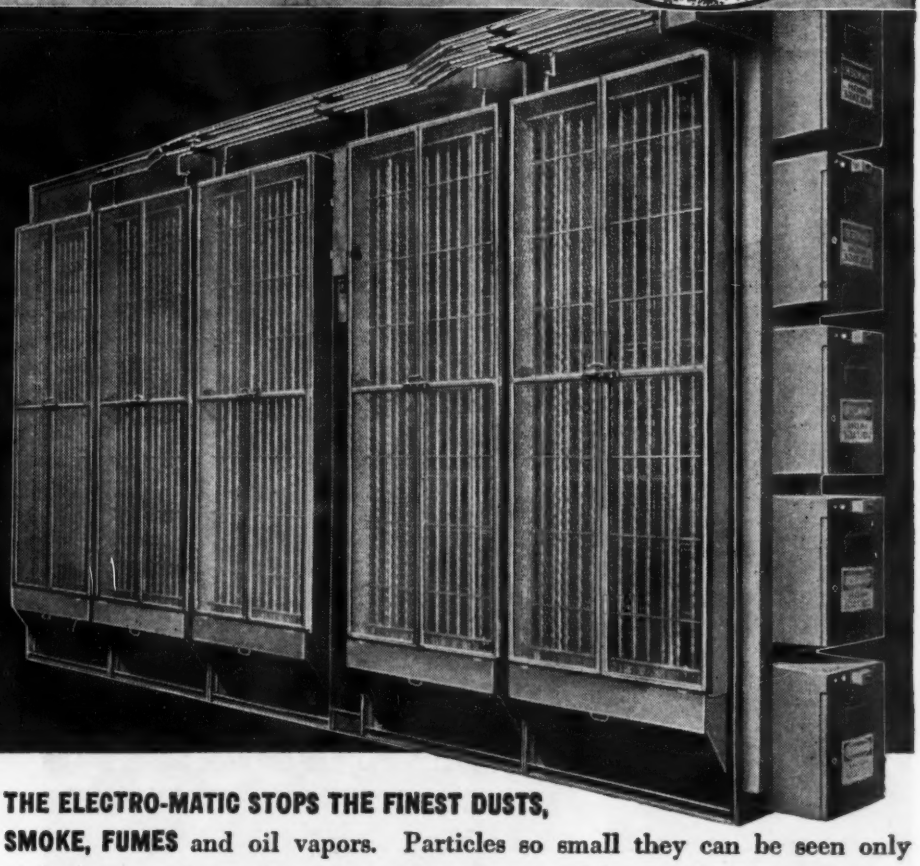
As to the second question, regarding the statement that sizing reduces the weight of yarn, this should be checked as it is contrary to normal findings and reasonable expectations.

Normally, there is a gain during the sizing operation proportionate to the percentage of size applied to the yarn. There seems little question that the loss of 52 lb. out of 350 lb. supplied was due to waste. It seems to indicate that this poundage was warped on the cotton system rather than on the silk, since there was so much waste. This lot of yarn was quite small, and some loss due to waste would have to be expected; but on normal runs of yarn, the gain in weight during sizing can be expected to more than offset the poundage lost in waste.

Were the weights given conditioned weights? If not, it is conceivable that the yarn shipped had more than a normal amount of moisture and the yarn received had less due to its having been dried and wound immediately;

Super Clean Air





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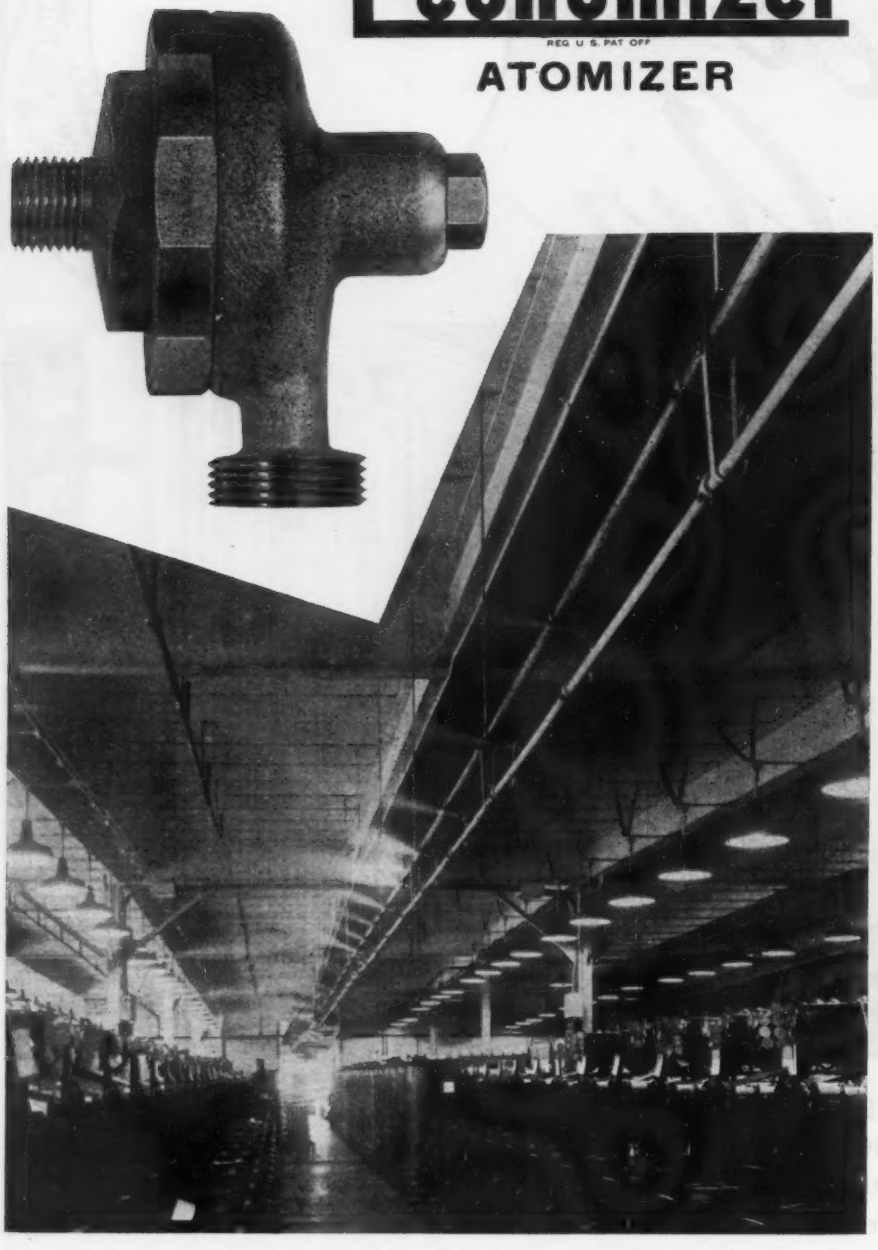

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but in no wise would this account for a loss of 52 lb.

Sizing Rayon Yarn Adds Tensile Strength

Technical Editor:

I have been endeavouring to locate some information regarding the tensile strength of acete and viscose yarns after warp sizing, particularly when these fibers have been sized with a gelatin size. So far, I have been unable to locate such information and am, therefore, appealing to you for any information you may have available.

My personal experience indicates that considerable tensile strength and percentage elongation are lost in slashing the warp. This may be recovered after desizing, but I am particularly interested in the difference that we may expect in the yarn with the gelatin size on it. (9056)

In some instances when incorrect practices are followed in slashing, rayon yarns undoubtedly will lose in tensile strength. However, if proper slashing methods are followed, the result is invariably an increase in strength and a decrease in elongation.

In slashing 100 den. dull acetate, using a gelatin formula on one test and taking 6.3% stretch, the yarn had 120.2 gm. strength in the raw and 129.8 gm. in the sized yarn. Elongation dropped from 23.8% in raw yarn to 16.4%. On a 75 den. bright acetate, there was 110.7 gm. strength in the raw, as compared to 115.1 gm. in the sized yarn; and from 22.6% elongation to 13.7%. On 100 den. dull rayon, with an average of 196.4 gm. strength in the raw yarn, we ended up after slashing with 212.0 gm., taking 7.3%. stretch in slashing. The elongation dropped from 21.4% to 12.6%.

Methods for Bleaching Raw, Low-Grade Cotton

Technical Editor:

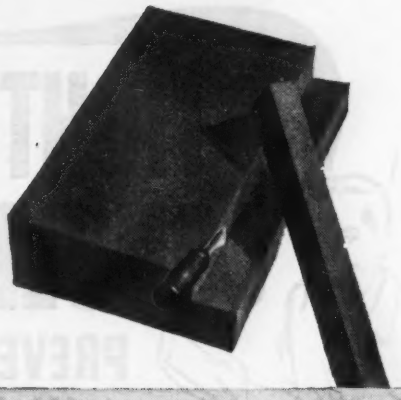
Could you please advise us how to bleach low-grade raw cotton as it comes from the cotton gin or from an oil mill without lowering the life of the cotton? We are processing the material for garnetting purposes rather than for weaving or spinning. (9057)

Briefly, the bleaching of low-grade cotton takes place in two steps: (1) boiling out or scouring the cotton with caustic soda and other assistants, followed by a wash; (2) a bleach treatment, using either sodium hypochlorite or hydrogen as the bleaching agent.

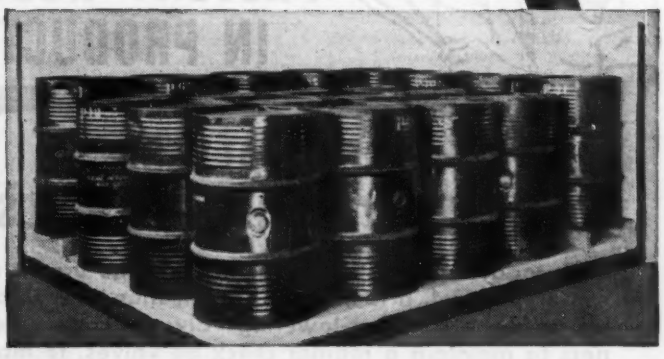
The types of equipment in which

The Versatile Insulation

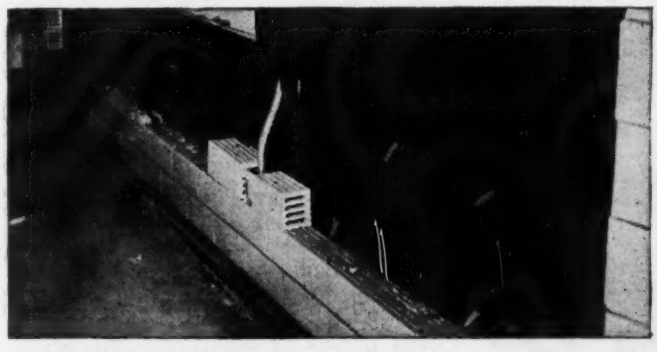
PC FOAMGLAS...



EASILY HANDLED—Light, rigid, strong, the big pieces of PC Foamglas are conveniently packaged, easily handled. They can be cut to fit around openings and obstructions right on the job. When you install PC Foamglas the first cost is the last cost.



STANDS THE LOAD—Under concrete wearing floors, PC Foamglas withstands pressure much greater than normal floor loads. It has proved able to maintain desired temperature levels over cold ramps and open loading platforms, to prevent heat travel from rooms below.



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Our specialists will be glad to consult with you on any problem that involves insulation. Also you will find a wealth of helpful information in the booklets we offer. Check the convenient coupon, mail it in today and your selection of literature will be sent to you promptly. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa.

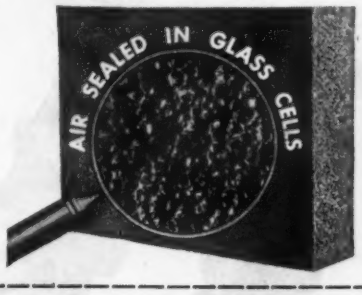

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Fig. 123 "N-M-D" Globe (Non-Metallic Disc)
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these operations are carried out are quite important and vary somewhat with the staple length of the cotton. In the case of short staple, such as ½ to ¾ in., the boiling out and bleaching can be carried out in one of the regular raw-stock, vacuum dyeing machines, such as the Chattanooga, Morton, or Franklin.

These dyeing machines are merely large vats with perforated grates in the bottom to allow for liquor circulation, and are so arranged that they can be lifted out of the machine with a hoist. On the lid there is another perforated plate held by springs and arranged to compress the cotton when the lid is bolted down to close the machine.

Liquor circulation needed in these machines is obtained by means of a pump which will circulate the liquor either from top or bottom. Such machines may contain approximately 1000 lb. of cotton, and are usually made of iron.

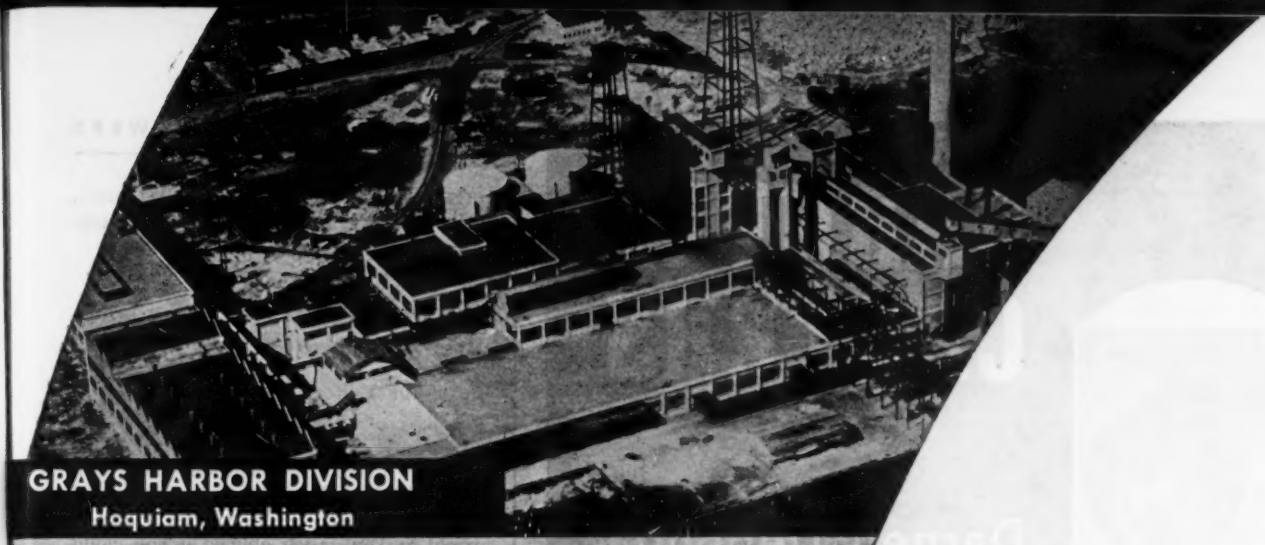
Where larger quantities or longer staple are to be prepared, the stock may be handled in an enclosed kettle of the standard kier type, provided with a circulating pump and heater and operating under 10 to 20 lb. pressure. In this machine, it is desirable to have wire screens over all outlets to prevent the linters from being washed away in the rinsing operation and to forestall the possibility of plugging up the outlets by an accumulation of the stock.

The boiling out or scouring procedure should be something as follows: 3 to 5% caustic soda, based on the weight of the stock, with 0.1% tetra sodium pyrophosphate, or other complex phosphates, and enough water to cover well the load in the machine. The stock should be boiled for 6 to 8 hr., then washed with water for 2 to 3 hr. to remove the caustic and impurities.

If a peroxide bleach is to be used, 2 to 3% hydrogen peroxide on the weight of the stock, with the same quantity of silicate, will give a satisfactory bleach in 2 to 3 hr.

If the inquirer prefers to use sodium hypochlorite as a bleaching agent, the bleaching solution should be made up at a strength of a 0.5 to 1.0 gram per liter available chlorine, and this bath circulated through the stock.

After bleaching, the stock should be thoroughly washed and then soured with acid. In the souring operation, sulphuric acid is commonly employed because of its cheapness; but unless completely removed, this agent may give trouble on drying. A safer acid to use, though more expensive, is an



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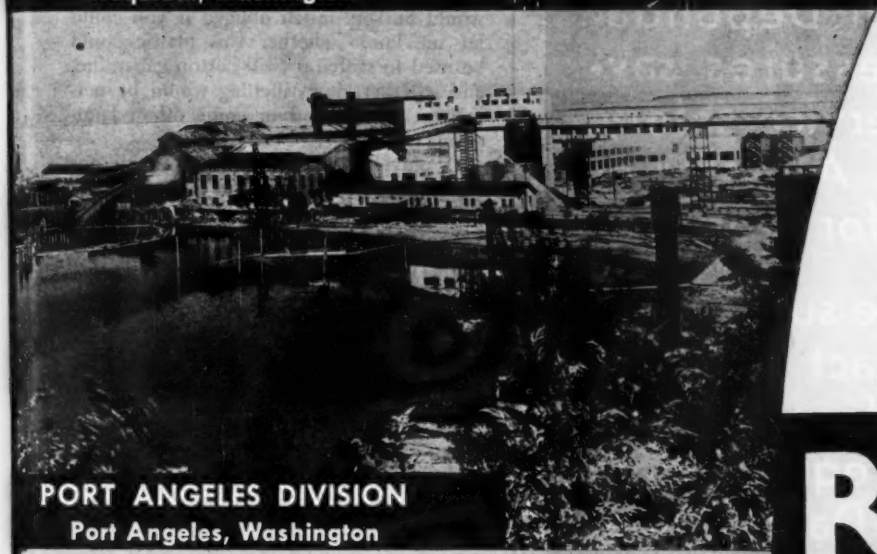

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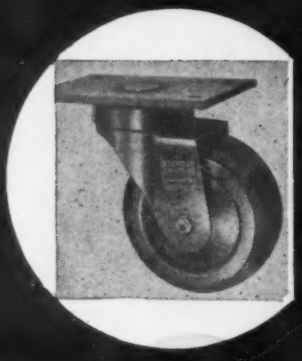

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organic acid, such as acetic. Of course, after souring, another thorough washing should be given.

Plastic Agents to Stiffen Gabardines

Technical Editor:

I have been greatly interested in the article and tables on plastics published in your March 1945 edition [page 94]. I realize that the last plastic mentioned has a stiffening effect on cloth, and I would be very much obliged if you could let me know whether this plastic could be used to stiffen a twill cotton gabardine, and whether this stiffening would be permanent or wear off or come off in laundering.

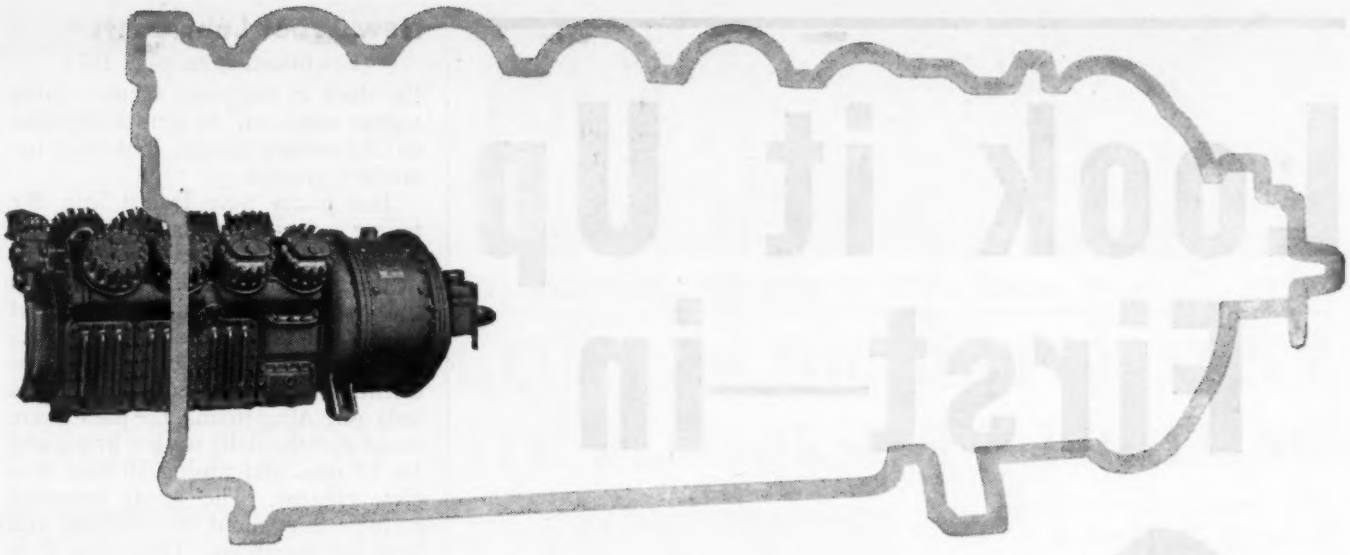
If polyvinyl alcohol is not suitable for stiffening cotton gabardine and does not resist laundering, could you recommend any plastic that could be applied in its stead? (9058)

We do appreciate your interest in the Plastics Tables. Your letter states that you are primarily interested in a synthetic that will stiffen a cotton gabardine. We infer that this plastic should be relatively permanent and the effect obtained should be resistant to laundering or dry-cleaning procedures.

As you know, there is no such thing as a permanent finish, since nearly any resin which is applied to cotton piecegoods gradually loses its effect through wear, as well as cleaning treatments.

For durable effects, when the "hand" is the primary result desired from resins, and also when simplicity of application is desired, the acrylic, ethyl-cellulose, vinyl derivatives other than polyvinyl alcohol, etc., are of particular interest, since emulsions of these resins can be applied in a simple padding-and-drying operation. By using them, it is possible to obtain finishes ranging from a stiff, boardy hand to a soft, full, flexible hand. While these resins vary somewhat in their resistance to repeated launderings and dry-cleanings, they may all be termed "fast."

Availability of such products is, of course, limited considerably by wartime demands. However, it is likely that more of such resins will be made available to the finishing industry in the not-too-distant future. It is probable also, that there will be more blending of resins of one class with another, providing they are compatible, so that the properties of more than one group can be combined in the finished effect. Many of these groups of resins are sold under specific trade names; therefore, it is always desirable to check with the resin supplier as to the nature of the base material.



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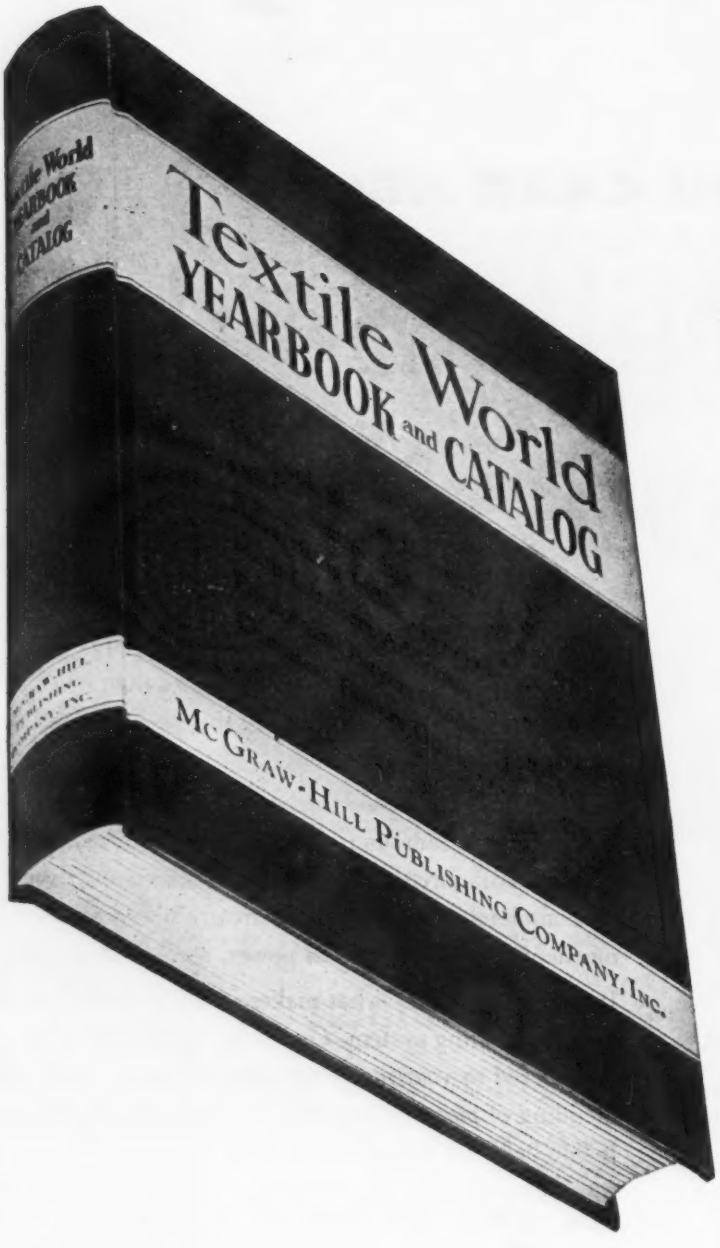


"The Yearbook with the Orange Bands"

New Wool Lubricants

(*Continued from page 101*)

the stock in the same manner as the regular emulsion. As a stock lubricant on the woolen system, it showed immediate promise.

The pieces were loaded into the fulling mill and saturated with water alone. The fulling mill was operated in the same manner as with soap and soda ash. Fulling time was about average for this type of fabric. Cover and felt were judged to be good and essentially the same as with soap and soda ash. After fulling, the pieces were scoured in the dolly washer by sudsing for 15 min. and rinsing 30 min. to a clear effluent. The goods remained neutral throughout the fulling and scouring operations. They were then extracted, carbonized, and finished. When finished, the cloth was full, lofty, and free of any odor. Strength of warp and filling was a little above average of goods processed in regular fashion. Ounce weight was about average through the set, indicating that dead loss was normal. The sequence of operations in this test was the same as for the regular process on this fabric.

Results in carding and spinning the yarn for the 14-oz. flannel indicated that 2 to 4 lb. of Avitone gave better results than the larger amounts commonly recommended for wool oils. Tests with 2 to 3 lb. of Avitone, dissolved in 10 qt. of water, seemed to give the best carding and spinning results under early summer conditions.

It was decided to make a test run on a 28-oz. fabric requiring warpwise shrinkage of 8 in. per yd. This fabric was woven 35 picks per in. and had to finish 44 picks. The 28-oz. fabric was made of all new wool, 50's to 60's, scoured to leave about 1% residual grease. This test was made using only 2 lb. of Avitone.

Carding and spinning checked closely with previous results. The cards filled up less rapidly and stripped easily. The yarn was even, strong, and less fuzzy than the regular production. The gray cloth was smooth and was noticeably brighter than regular gray fabric. The pieces were carbonized in the grease and dry milled as usual.

Since sulfonated compounds are highly substantive to wool at the low pH of carbonizing, the Avitone remained in the goods until the alkali was added and rinsed out freely. After goods were carbonized in the grease and neutralized before fulling, the lubricant had to be replaced for fulling. Because of the heavy weight of this particular fabric, 4 lb. of Avitone per 100 lb. of cloth were used. This was dissolved in water sufficient to wet the goods down.

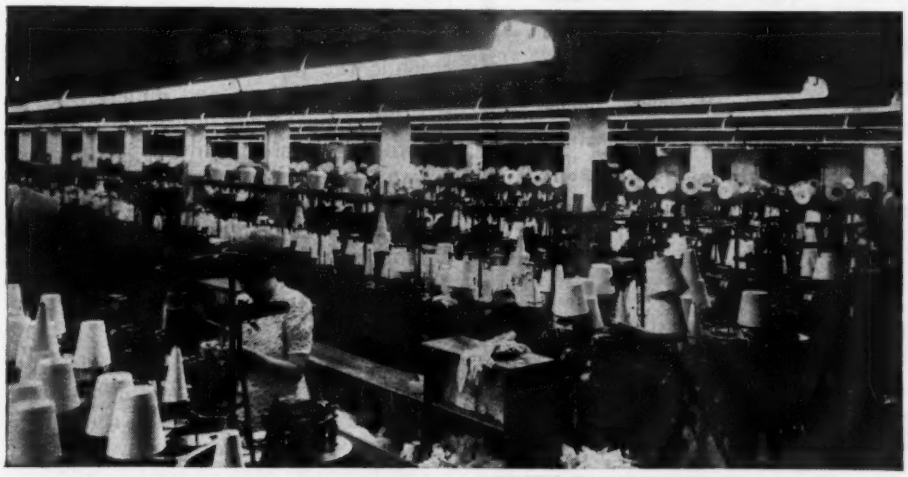
In order to avoid the use of red-oil

SYLVANIA NEWS

TEXTILE EDITION

JULY *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

SWEETWATER MILL GETS HIGHEST QUALITY PRODUCTION WITH FLUORESCENT LIGHTING



General view of knitting room shows arrangement of machines. Fluorescent lamps in continuous rows are mounted 8 ft. above the floor—note ease with which operator is making a tie.

Sweetwater Hosiery Mills, of Sweetwater, Tenn., is producing more than ever before and in better quality—with far less spoilage and fewer "seconds"—since the installation of fluorescent lamps and fixtures made by Sylvania Electric.

This statement has come from the management of this representative plant and, along with the accompanying photographs, is ample evidence of the enormous value that modern, glare-free, efficiently operated fluorescent lighting has attained.

To solve your lighting problems write Sylvania Electric Products Inc., Salem, Mass.

With 45 foot-candles on work, inspection is rapid, easy—eyestrain, glare eliminated with fluorescent lighting.

REQUEST FOR SERVICE OF A LIGHTING COUNSELOR

We'd like to have one of your Lighting Counselors call on us to discuss our lighting problems. Involves no cost or obligation on our part.

- ☐ We're considering additions to or improvements in our present lighting.
- ☐ We're considering an initial fluorescent lighting system.
- ☐ We're looking forward to post-war lighting improvements.
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Tank Builders for over 80 Years

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Established 1854
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fatty and generally found in conventional tar removers, a special alcohol sulfate emulsifier was used with commercial xylol. The reagent dissolved to a clear solution which emulsified when extended with water. This was added to the fulling mill after the Aviton solution was applied.

Fulling time was 3 to 3¼ hr. Scouring was done in the dolly washer by sudsing for 15 min. and rinsing 45 min. to pH 7.0. In the regular process, more than 2 hr. rinsing was required to reach pH 7.0. After drying, the cloth was free of odor and was markedly whiter than regular cloth processed with mineral lubricant, soap, and soda ash. The finished undyed cloth retained practically its original whiteness after several months aging while the regular fabric became progressively yellower and duller.

The advantages of carbonizing before fulling are readily apparent, particularly for fabrics going into pastel shades. The effect of mineral acid and elevated temperatures on the stock lubricant in the carbonizing baker tends to accentuate the difficulties encountered later in wet finishing and dyeing.

This material performs satisfactorily under these conditions and in addition presents the possibility of fulling in the carbonizing acid, thereby eliminating the extra step of neutralizing.

PRACTICAL TRIALS. During the past year a considerable number of practical trials have been made on woolen fabrics ranging from 7 to 34 oz. per yd. These have included woven and knitted cloth, stock dyed, and piece dyed. Stocks have included fleece and pulled wools, noils, garnetts, clips and rags, rayon staple, rayon waste, and cotton.

Blends containing noils do not offer a serious problem as the worsted oils generally can be scoured out with Avitone alone or with some additional synthetic detergent. The latter is preferably added to the Avitone fulling medium. Garnetts, clips, and rags do present a problem in scouring. The length of time elapsing from time of picking the rags may further increase scouring problems because of oxidation of the picker oils. However, it has been possible to handle these fabrics successfully by increasing the amount of synthetic detergent in fulling and scouring. The obvious answer to processing reworked stocks is to use this material for picking and garnetting.

It has given excellent results on new, clean, scoured wool. Two to 2½% on the weight of the stock has given uniformly good results in carding and spinning. In the majority of cases, the

"Tomorrow is *another* day"

Because, for almost a century, Powell Engineering has been anticipating the flow control requirements of products and processes still in the laboratory stage, Powell was ready to meet—and has met—every new demand imposed by war. Today we can justifiably say "there's a Powell Valve for every *known* requirement of industry."

But "tomorrow is another day" and it will bring new problems in flow control. Powell, as always, will be ready to solve them.

The Wm. Powell Co.

Dependable Valves Since 1846

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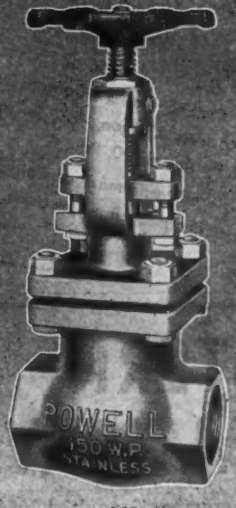
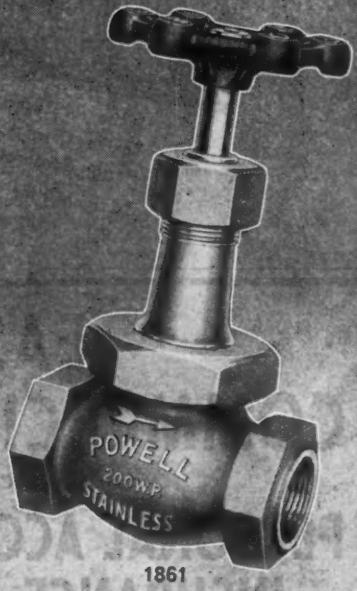
2309

1837



1968



1861

Fig. 2309—Stainless Steel Flush Bottom Tank Valve, for attaching to metal tanks and autoclaves. In this valve, the disc lifts up into tank to open.

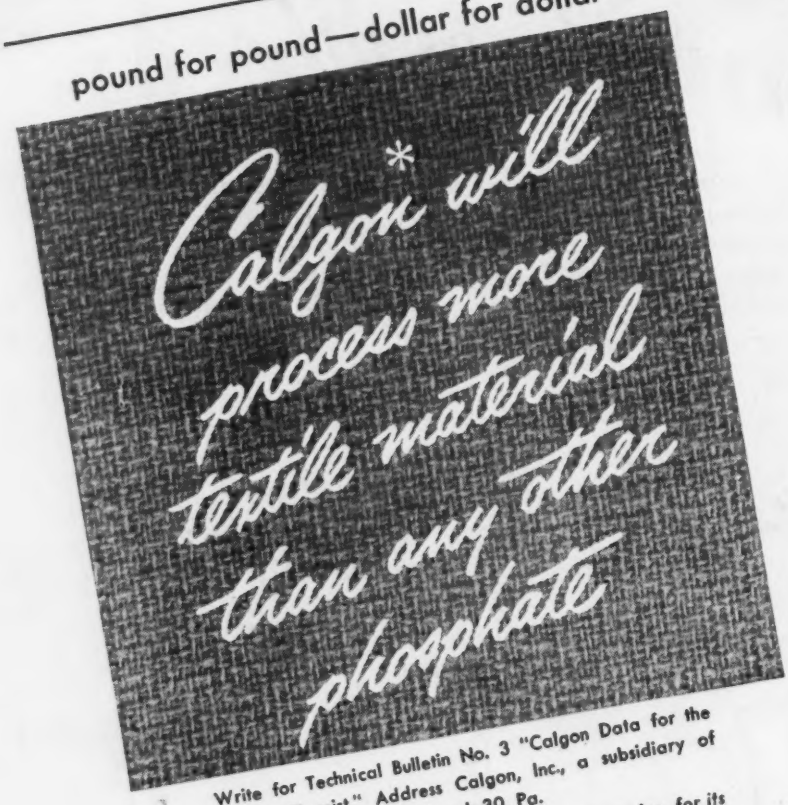
Fig. 1837—200-pound Pure Nickel Globe Valve, with screwed ends, union bonnet, and plug type disc.

Fig. 1968—150-pound Stainless Steel Gate Valve, with screwed ends, outside screw rising stem, bolted yoke-bonnet, and taper wedge solid disc.

Fig. 1861—200-pound Stainless Steel Globe Valve, with screwed ends, union bonnet and plug type disc.

POWELL VALVES

pound for pound—dollar for dollar



Write for Technical Bulletin No. 3 "Calgon Data for the Textile Chemist." Address Calgon, Inc., a subsidiary of Hagan Corporation, Pittsburgh 30, Pa.

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yarn is smoother, more uniform and elastic. In many instances, the break test is higher probably owing to the improvement in uniformity or absence of twists and nibs. Improvements in carding and spinning are more pronounced with blends containing long, coarse wools. The stock is less wild on the cards and the roping separates more readily on both ring and tape condensers. When spun on mules these blends are less liable to double up during the twisting cycle owing to better cohesion of the long fibers. There is evidence that Avitone lubricated stock is less sensitive to changes in moisture content during carding and spinning.

Elasticity and evenness of the yarn should result in improved loom efficiency. All observations that have been made point strongly to improved loom efficiency.

AVITONE IN WET FINISHING. In those cases in which Avitone is used with alkali, fulling time was either the same or very little longer. Whether or not alkali is used with Avitone, it has been found that the amounts needed are very much less than in ordinary practice.

Since it is best to have goods rinsed free of alkali before carbonizing or dyeing, the Avitone process lends itself admirably to speedy adjustment of pH within the desired range. Thus, scouring, whether in the dolly or continuous washer, shows a great advantage in time, water, and power consumption.

PROCESSING WORSTED. Results thus far have shown that Avitone performs very satisfactorily through the preparatory steps of gilling, combing, drawing, spinning, and weaving.

On those worsted fabrics that require fulling, the residual Avitone originally used as the fiber lubricant can also be the fulling agent. If it is necessary to remove soil or stains, a neutral synthetic detergent can always be added to the fulling medium so as to completely eliminate soap and soda ash.

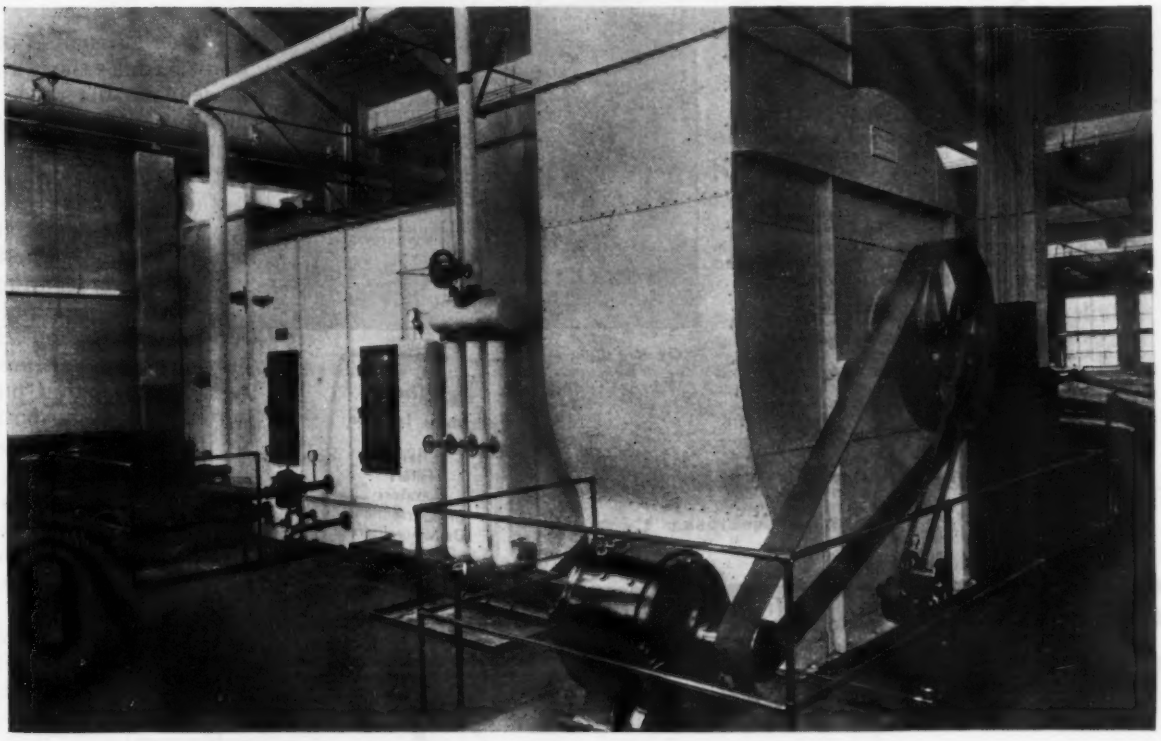
Depreciation Rates

(*Continued from page 121*)

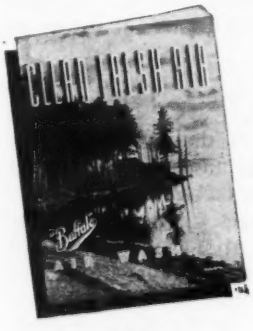
preciation and a charge to net worth. But you cannot deduct this difference on your tax return. You are NOT permitted to compensate in later years for prior failure to take any depreciation or allowance which may have been inadequate even under the known facts of that prior period. This restriction has cost businessmen many tax dollars in the past, and, with top-flight rates today, management must minimize this defect or such losses

Still "Tops"

FOR CONTROLLING HUMIDITY



Buffalo Fan & Air Washer installed prior to 1913 at plant of John B. Stetson Co.



Send for Bulletin 3142-B.

Textile mills have used Buffalo Air Washers and Fans to regulate humidity since the earliest installations in the field. Because of this long experience, Buffalo equipment is today still "tops." Air is cleaned, washed, humidified or dehumidified, heated or cooled in a Buffalo Air Washer, and the equipment is simple, fool-proof and economical to operate.

Developments in recent years provide extra cleaning at no noticeable increase in operating costs.

Your air-conditioning can be as simple or as complete as you want with "Buffalo" equipment.

Why not write us concerning your problems?

BUFFALO FORGE COMPANY

184 Mortimer Street **Buffalo, N. Y.**

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

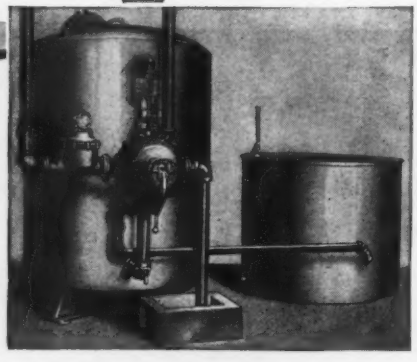
"Buffalo" "First For Fans"

FANS AND AIR WASHERS

Refinite

Superior Water Refining Equipment

Below: Refinite Multi-Port Solo Valve controlled Heavy Industrial Water Softener



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In design, construction, and operation, Refinite equipment is the ultimate in simplicity, making for maximum efficiency, ease of operation, minimum maintenance cost.

Engineered for . . . EFFICIENCY
Efficiency is of prime importance. That is why Refinite equipment is specially designed and engineered for each individual job.

Built for . . . DURABILITY
Heavy construction, and highest quality materials go to make Refinite a lifetime servant. Many Refinite installations are still giving efficient, economical service after more than 25 years' operation.

Over a Quarter of a Century of Water Refining.

Refinite Products Include:
Softeners
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The Refinite Corporation
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FOR EXCELLENCE IN PRODUCTION ★ ★

DRAPER Dependable SOAPS

For more than 85 years, DRAPER has been providing better soaps for better fabrics.

The Textile Industries long have known that "Depend on DRAPER" has real significance, for the users of DRAPER Dependable SOAPS are producing better cloth.

Write for a demonstration of DRAPER SOAP *quality*.

DRAPER SOAP CO.
DIVISION OF CONTI PRODUCTS CORP.
171 Front St. Tel. No. Perry 1806 Pawtucket, R. I.

will be greatly increased. Short-change yourself on depreciation and you lose out in two ways: (1) you pay more tax; (2) your costs do not include adequate depreciation so that your selling prices are too low proportionately. You cannot retrieve prior losses of this kind. You can, however, prevent future losse by hereafter estimating useful life more accurately. This is most important in the postwar period when much equipment will be replaced with new.

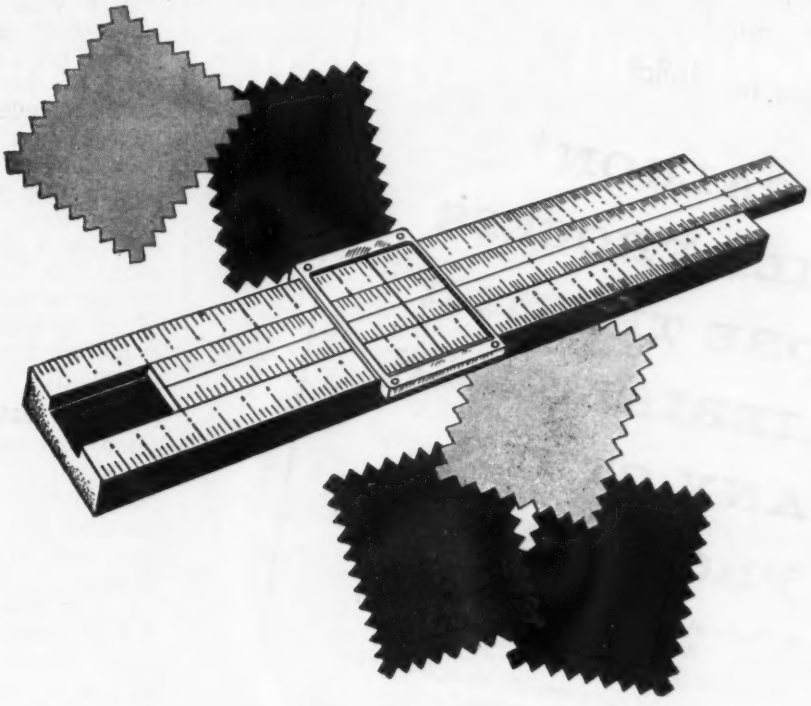
When an analysis of your depreciation schedules shows that the rates are inadequate, the original rate may be increased if you can establish that the remaining useful life of the asset will not equal the original estimate and can further justify the proposed increase. Review your depreciation recordings now to determine whether they may be increased in order to reduce taxes and probably increase profits by an upward revision of costs and selling prices, unless war restrictions prevent such price rise. You will thus put yourself in a better position financially to modernize in the postwar period.

Another consideration in raising the rate is the accelerated depreciation on equipment which is being used more hours per week than anticipated when the rate was set after purchase. When an overload was not taken into account in setting depreciation rates, the government will usually grant an increase. In some cases, authorities state that such increases should run as high as 150%, that the night shift is harder on machines than the day shift. Inadequacy or absence of repairs due to war restrictions also increases depreciation and an increased deduction may be allowed if it can be justified.

OBSOLESCENCE. Obsolescence is another phase of depreciation. This involves age, because the march of time touches the factors that create it: economic changes, improved equipment, new inventions, inadequacy of existing equipment because a business outgrows it, prohibitory laws, loss of trade, shifting of business centers, normal progress of the business arts and sciences. Few textile mill owners consider obsolescence. From now on, its omission may be costly. You may take a reasonable deduction for normal obsolescence if you can predetermine it when fixing the rate. Include it with wear and tear in the one rate.

During the more recent years, equipment manufacturers in all fields have introduced improved products with greater frequency, increasing obsolescence of equipment in use; yet users have clung to old general averages when determining the useful life

For Five Generations a Part of the American Scen



Fabric Engineering

. . . FOR WAR AND PEACE

Needs of the armed forces have immensely accelerated the development of textile techniques at Cheney Brothers. All of Cheney Brothers' long experience and exceptional research facilities have been concentrated on producing war fabrics with accurate specifications for vital end uses.

New yarns, new methods and procedures have been developed. Each textile fiber has been studied to determine its performance alone and in combination with other fibers.

These new techniques, developed by war production, will mean amazing new fabrics for civilians when the war is over. To hasten that day of final victory in the Pacific, let's all keep on working, and keep on buying War Bonds.

★ CHENEY FABRICS

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Quality manufacturers since 1838

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Velvets—Pile Fabrics—Cravats—Upholstery and Decorative Fabrics
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MILLS AT MANCHESTER, CONN.

ALSO AT MANCHESTER, CONNECTICUT, A SUBSIDIARY...PIONEER PARACHUTE COMPANY

pound for pound,
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CALGON*
WILL PROCESS
MORE TEXTILE
MATERIAL THAN
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Uniform CURING *is Not a* "NATIONAL" *Problem*

Obstacles to fast, uniform curing of a wide variety of fabrics are effectively overcome in the new "NATIONAL" Model E Automatic Piece Goods Dryer. The ability of this machine to operate so efficiently and economically at the high temperatures required, without causing the material to crease or wrinkle, is the result of design and construction features exclusive with "NATIONAL". Among these are controls and adjustments which, in multiple-width machines, permit uniform curing of different types of fabrics at the same speed, but at separate air velocities.

Our representative will gladly explain *all* the advantages of "NATIONAL" Dryers . . . for curing, or drying at normal temperatures.

Automatic Loop Dryers
Package Yarn Dryers
Print Goods Dryers
Truck Type Skein Dryers

Straight Run Tenters
Return Type Tenters
Apron Stock Dryers
Continuous Yarn Dryers

THE NATIONAL DRYING MACHINERY CO.
WEST LEHIGH AVE. & HANCOCK ST., PHILADELPHIA 33, PA.
New England Agent—C. H. INGALLS, Providence, R. I.

of an item. Obsolescence moved faster in the 1930s than in the 1920s, yet, the general depreciation averages remained about the same. Inasmuch as improved equipment is coming to market with greater frequency, it seems only reasonable that general-average rates should be increased to cover the increase in normal obsolescence resulting from what is now normal progress. Many managements have clung to general-average rates as though they were fixed percentages set by some authority. Few make check-backs against their own experience. Now is the time to revise this practice so that mill management can salvage as much profit and tax-saving as possible for postwar investment.

TYPES OF OBSOLESCENCE. The conditions that create obsolescence are of two kinds: (1) normal or predictable, and (2) forced or unpredictable. A manufacturer can, for example, include a definite estimate for normal obsolescence, if he buys equipment that he feels reasonably sure his business will outgrow in five years. Even though he may estimate ten years as the span of usefulness based on wear and tear, the five-year obsolescence factor should be considered also. The line between normal and forced obsolescence is sometimes finely drawn, but the former has been seldom considered by taxpayers. Today, it must be considered. The war has produced an economic upheaval that is creating more rapid obsolescence than in any prior period. Textile mill owners will lose many tax-dollars unless they "up" their depreciation estimates to cover forced obsolescence when apparent.

War begets tremendous technological advances. Technicians in all fields have made improvements in production equipment to be "sprung" in the postwar period, which normally would have taken years to develop; hence, obsolescence will be forced before its normal time. Textile mill-owners with equipment not written off at the war's end, who scrap it prematurely to take advantage of new developments in machinery or non-mechanical devices, may lose heavily on depreciation if they do not mend their fences now. If a radical economic change or some unforeseen factors materially shorten the useful lives of depreciable assets, mills may increase the annual depreciation deduction. This increase will effect tax-savings and may justify higher prices, further increasing profits. Your objective is to get that unrecovered cost, the balance to be depreciated, off your books before postwar equipment is marketed, otherwise, you do not get enough deduction for depreciation up to the

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Against weather bombing

Restore and protect your property now

Waterfoil is made of irreversible inorganic gels. These gels bond both chemically and mechanically to masonry surfaces to form a dense hard coating. Because of its microscopic porosity this "raincoat" lets the masonry breathe and helps impede water penetration which causes reinforcing bar rust, spalling and disintegration.

The Horn Research Laboratories took ten years to develop and test Waterfoil. It has a true scientific basis for its formulation and contains no oil, cement, lime, casein or glue. Waterfoil is unlike any other masonry protective coating. Send today for the Waterfoil literature. Restore your property against weather bombing.

Horn Products and Methods Protect Millions of Square Feet of Surface Throughout the Nation

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THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

A. C. HORN COMPANY

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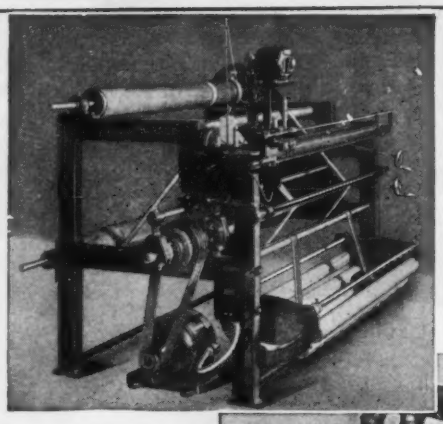
Manufacturers of Materials for Building Maintenance and Construction • Long Island City 1, N. Y.

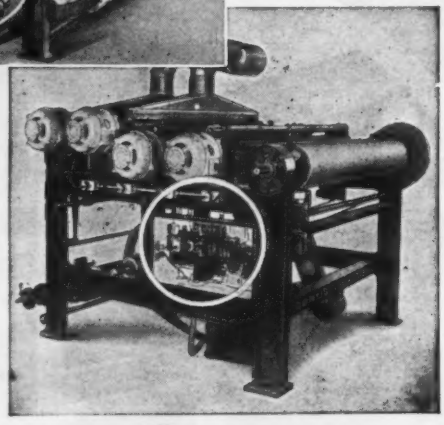
Houston, Texas • San Francisco, Calif.



DUPLEX SEWING and WINDING MACHINE

For use with CMR Shear in handling Rayons

A high production machine for making up and supplying an automatic shear with rolls of rayon up to 38" diameter. Where a scray is impractical because of the danger of wrinkles, this latest model duplex machine is used.



CMR SHEAR

with new Electronic Control for Rayons and Cottons

The automatic seam guard gives complete full width protection. When a seam comes along the individual motors instantly reverse and run in the opposite direction (as in back-grinding) until the seam passes; immediately resuming full speed rotation in the cutting direction.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

time you modernize which means that you pay more tax and earn less profit.

THREE WAYS TO INCREASE RATE. Management has three ways to increase the depreciation rate: (1) accelerated depreciation, (2) increase due to under-estimating wear and tear, (3) and obsolescence. Tax savings effected thereby and increased profits on sales will help swell modernization funds for the postwar period. When you do invest in new equipment, see that you compute depreciation more accurately than heretofore. You must be ready to justify changes in rates if the Treasury Department requests, so make sure that the records are clear and complete on this deduction.

Automatic Comber

(*Continued from page 96*)

gear and cam mechanisms have been enclosed in a cabinet where they operate continuously in a bath of oil.

AUTOMATIC DEVICES. An ingenious method is used to supply a new lap. When the active lap has been reduced in diameter to practically the size of the bobbin, the creel mechanism automatically drops the new lap, ejects the old bobbin, and pieces the lap without stoppage of the machine or assistance from the operator.

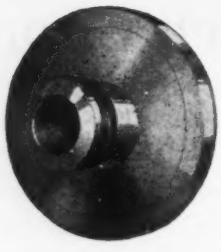
The creeling device effects a great saving. When the active lap runs out, there is no lost production due to stoppage of the comber. In addition, there is no time spent by the operator in creeling the new lap or in piecing the laps together.

A similar saving is obtained by the use of the can-doffing device shown in Fig. 2. Operated electrically, it stops the comber for about 30 sec. when a predetermined yardage of sliver has been produced. During this period of about 30 sec. the sliver delivery-head moves into position over an empty can, and the comber then renews the operation. This arrangement allows the operator to remove the full can at any time during the doffing cycle and to replace it with an empty can.

With the comber operating at such high production rates, the automatic doffing device is necessary. High productions have decreased the length of time between doffs, and it can be seen that a small waiting-period at doff time would amount to a sizeable percentage of the new doffing cycle.

The removal of waste from the comber has been accomplished by the use of suction pipes attached to the heads. These pipes draw the waste to an overhead bin at the end of the comber. The bin is equipped with a

Worn Parts Reconditioned
actually outwear new ones



For Example: **Rollers.** We turn roller down and shrink on a Thomas & Skinner Long Life Tire made from special wear-resisting material. We also grind surface to correct diameter.

Thomas & Skinner Reconditioning Service restores cams, gears and other parts for full-fashioned knitting machines to their exact original size and shape. And one special processing gives T & S Reconditioned Parts a more enduring surface than the same parts had when new. Satisfactioned guaranteed.

T & S Products

We manufacture an extensive line of quality products for full-fashioned hosiery mills including Jacks, Narrowing Plungers, Narrowing Chain, Friction Springs, Snapper Springs, Magnetized Sinker Hooks, Cams, Running-in Machines, Locking Dials.

Thomas & Skinner Steel Products Co.
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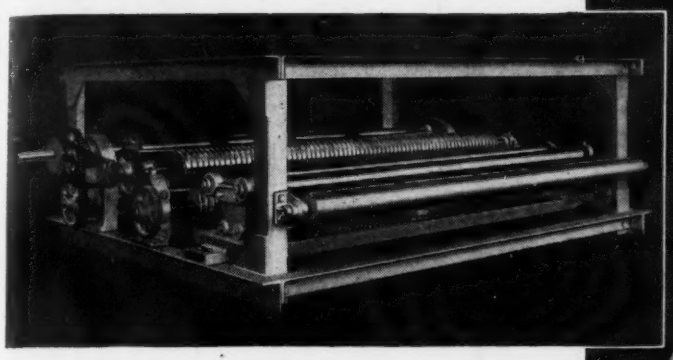
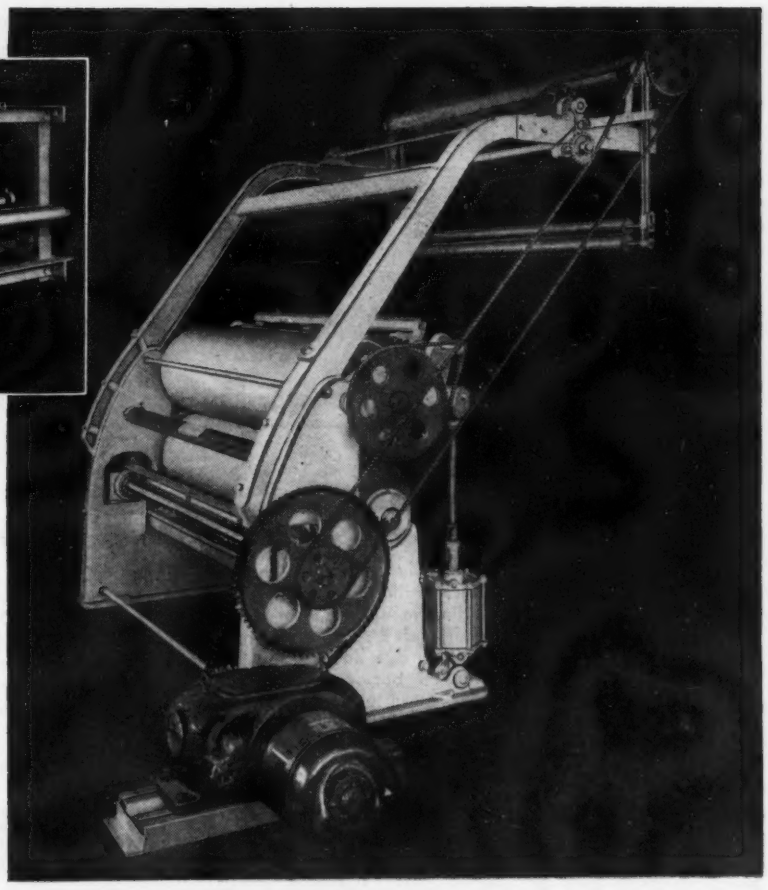




How to CONTINUOUSLY OPEN AND EXTRACT CLOTH AT ANY REQUIRED PRODUCTION RATE

Pictured on this page are the new Hunter contributions to faster and continuous cloth opening and extracting—at any required speed and with a high percentage of moisture removed. With the Hunter Ceiling Scutcher and Hunter Model G Pneumatic Squeeze Rolls and variable speed control, the opening and extracting operation is continuous—with one man's labor, with only 7½ H.P.—and with extraction down to 50% to 60% on the bone-dry basis.

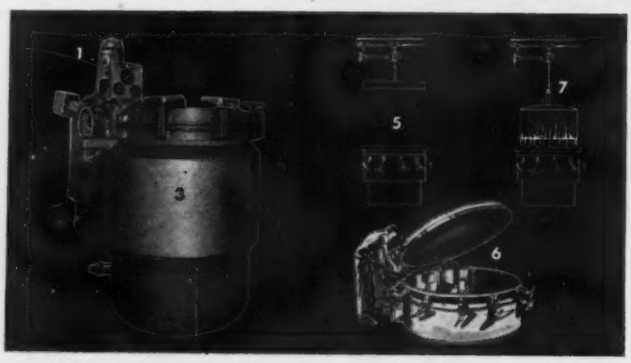
The Hunter Scutcher and Model G Pneumatic Squeeze Rolls may also be put into a continuous range with the new Hunter Tenter or Carbonizing Dryers, which affords the mill continuous flow from the washers to the drying operation.

The fact that in a few years, American mills have invested over half a million dollars in Hunter Pneumatically Operated Squeeze Rolls, should encourage mills now using other methods of cloth extraction to investigate the savings possible for them. You are cordially invited to write to James Hunter Machine Company for more complete details.

JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASSACHUSETTS, U. S. A.
FOUNDED 1847

The Fleet Line

STAINLESS STEEL STOCK DYEING MACHINE



FOR DYEING ALL TYPES OF WOOL, COTTON AND STAPLE RAYON

1. VERTICAL MOTOR—easily accessible and away from moisture. ● 2. EXPANSION TANK is integral with dye kettle, eliminating many outside fittings, with corresponding reduction in upkeep cost and circulation friction. ● 3. DYE KETTLE & expansion tank insulated to save steam. ● 4. VERTICAL PUMP (inside expansion tank), submerged in dye liquor, requires no packing. Discharges into a duct of large area, welded to bottom of tub, delivers to perforated center pipe which discharges over stock, down through, back to expansion tank. ● 5 & 6. LIFT-OFF OR TILTING COVER. ● 7. UNLOADING. Electric hoist hooked to center post lifts batch out on false bottom.

RIGGS AND LOMBARD
INCORPORATED
FOOT OF SUFFOLK ST., LOWELL, MASS.

Sterling Ring Travelers

EXPERIENCE

Conversion can be very costly.

Experienced mill men can help you keep these costs at a minimum.

Let our Service Engineers prove their value to you.

Southern Representatives

D. J. QUILLEN, Box 443, Spartanburg, S. C.
D. C. ANDERSON, Box 629, Cedartown, Georgia.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

drop door so that the waste may be quickly removed to a box for transfer to the picker room. A novel feature which results from the use of the suction system is the method of waste test employed. A small section of screen can be placed under the comber heads to catch the waste for test purposes. Thus all heads can be tested simultaneously.

In spite of the high productions obtained from the comber, the company reports that it is obtaining a superior quality of sliver. Nep count and yarn appearance have been exceptional, it is said, and the quality of finished cloth has been improved.

Increased Card Speeds

(*Continued from page 100*)

the panel were set up for the card. A standard mill card, in good condition, was used for all processing; and to facilitate the work, a variable-speed drive was used for the lickerin. Settings recommended by machine builders and representing general mill practice were maintained during the series of tests. These settings, as well as complete test details, will be made available soon to the industry in a final report by the sponsoring agencies.

The card sliver was processed through two drawing frames, one long-draft roving frame, and then spun into yarn on a long-draft spinning frame. The 1-in. cotton was spun into 20s yarn with a 4.25 twist multiplier from 2.20 hank roving doubled. The 1⅛-in. cotton was spun into 40s yarn with a 4.00 twist multiplier from 4.00 hank roving doubled.

Complete data was collected for each type of test. Weights, speeds, and machine settings were carefully noted and recorded. Power, waste, nep count and flat-strip weight were tested and recorded. A complete testing routine for all manufacturing processes and conditions was undertaken. This included fiber-array tests, Shirley analysis, Pressley fiber-strength tests, skein and single-strand strength tests, and yarn-appearance tests.

TEST RESULTS. At this time, only general remarks can be made concerning the results obtained from the tests, since the test results released so far are only tentative.

From the standpoint of the yarn, it can be definitely stated that the tests showed no significant trend which indicated a loss of strength due to increased production or speed. It follows, therefore, that a considerable range of card speeds is practicable when yarn strength is the dominant factor. Single-strand as well as skein tests demonstrate the accuracy of his

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Rayon Yarns

Filament and Spun Rayon Yarns dyed and twisted to your specifications.

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statement. Yarn appearance also varied only one-third of a grade.

Because of conflicting opinions concerning the influence of speed on nep count, the results of these tests were especially interesting. Over-all increases of speed resulted in an increase in neps in the card web. Increased doffer speed had the same effect, as did increased lap weight and sliver weight, although in a less pronounced way. The wider setting of the front knife-plate (0.036), and the closer setting (0.022), both resulted in higher nep counts than the 0.029 setting. Varying the speed of the lickerin, however, had no consistent effect on nep count. All of these increases in nep count are considerably less important than the facts that the over-all effect of the tests showed only one-third of a grade loss in yarn appearance and the cotton itself caused the greatest variation in nep count.

WASTE. Waste was checked carefully to determine the effect of the varying speeds. It was found that when only cylinder speeds were increased, waste increased up to 1.38%. When the speed of the flats was increased, the flat strips, of course, increased. Increasing the card by running all parts at a higher speed resulted in increased total waste. However, increasing card production by speeding up the doffer, using a heavier lap or producing a heavier sliver, resulted in a lower card-waste percentage.

Of great importance, too, are the results found in testing the effect of speed on the fiber strength of the cotton. Samples from the lap and sliver were tested for fiber strength on the Pressley instrument, and no indications were found that fiber strength had been lowered by the increased speed. In addition, fiber length of the cotton after carding was not impaired by the changes in speed.

Ceilings and Manpower

(*Continued from page 131*)

Mr. Bowles indicates that adjustments will be made with the aid of this net-worth formula but will be sufficiently broad to take care of such expenses as increased cost to mills of adding a third shift.

An order which at this writing is in the making allows cotton-textile mills adjustable pricing on certain major cotton items, after they have made a certification to OPA that they are paying the wage increase or are a party to a case pending before WLB for such wage increase. These mills will be granted an increase, within a range to

SUSTAINED PRODUCTION

For sustained production and quality work there is no finer equipment for lap seam felling than the Willcox & Gibbs Style 951 machine.

This machine has for many years demonstrated its value to manufacturers of dress and work shirts, wash suits, wash dresses and similar garments where accurate sleeve setting and felling operations are required.

Equipped with the semi-automatic or reservoir type oiling system, complete lubrication of all important parts is assured. Oil drain passages lead excess or waste oil to a small receptacle at base of the machine, thus ensuring clean lubrication of all parts.

You may not be able to get your Flat Bed Lap Seam Felling Machine at once, but when conditions are again normal, machines will be available in large numbers. It will pay you to wait for the "W. & G." Flat Bed Lap Seam Felling Machine.

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Here are some interesting features of Style 951

- Attachments suitable for various operations
- Floating Power, unnecessary to fasten to table
- Improved Feed Mechanism
- Improved Looper Mechanism
- Improved Looper Thread Control
- Low Maintenance Costs
- Needle Thread Control
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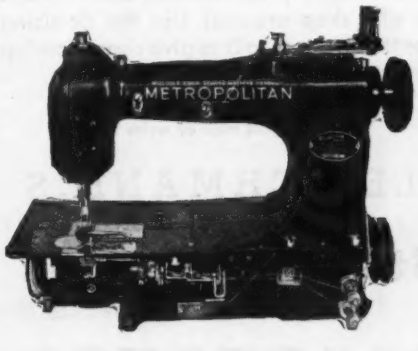
- Stitch Type, U. S. Standard 401



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AIR-PERME-ATOR

. . . because this modern air conditioner operates by molecular suspension of moisture, as in natural evaporation.

Keeps the atmosphere in salubrious condition, operators alert and comfortable, and at highest efficiency during hot summer weather.

AIR-PERME-ATOR is the least costly and most flexible form of efficient mill air conditioning, at all times, and in all outside weathers. You owe it to yourself to know about it now.

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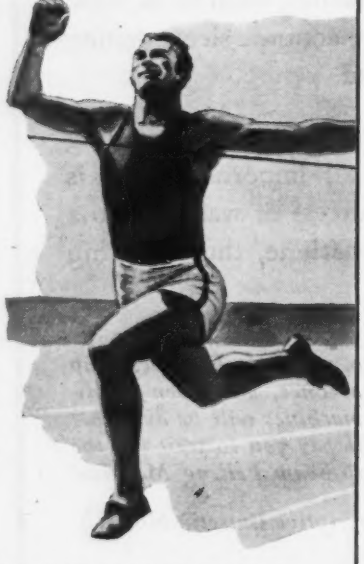
The "CHAMP" wins all the honors!



For its smooth, flawless, uniform performance, DIASTAFOR de-sizing agent — the "champ" in its field—wins all the honors.

DIASTAFOR assures the ideal finish for cottons, mixed goods and rayons. It gives perfect results every time. You don't have to worry about discoloration, injured fibres or impaired tensile strength when you use DIASTAFOR.

The nation's leading chemists and millowners heartily recommend DIASTAFOR. So why shop around? Use the de-sizing agent that never fails to give championship performance. Use DIASTAFOR!

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be determined by OPA, but not to exceed 4%.

A questionnaire will be sent to the industry to get more complete information on the amount of cost increase as a result of the upping of wages.

According to present plans, OPA will set up two columns of prices—one for those mills which are paying the increased wages and one for the mills which are not. It is expected that eventually only the first column of prices will remain and apply on an industry-wide basis. This, of course, presupposes industry-wide recognition of the higher permitted wage scale.

INCENTIVE PRICE. Third, use of an incentive price plan as a means of stimulating greater utilization in terms of man-hours by the employees now on the payrolls of the mills engaged in essential civilian and military production.

Fourth, development of standards whereby OPA will be able to give more consideration to individual mills where hardship can be shown to exist.

While these policy adjustments are being worked out, OPA is planning to tighten controls at the cutter and distributor levels in order to hold down, as much as possible, the cost-of-living index. Efforts will be made to absorb price-ceiling increases at this level.

MAP AND M-388. The WPB-OPA low-end textile and apparel program is due for drastic changes in the next few weeks. While the Maximum Average Price Regulation will be retained, it will have an overhauling. For example, it is expected that the rayon MAP will be revised in such a way as to prevent quality deterioration. It is also expected that the apparel MAP will be revised to allow producers of low-end garments a higher permissible average price than is now allowed.

WPB will try to hold on to M-388 but will shift it more toward the set-aside M-328B type of program (TW June, '45) but it will have hard going.

MANPOWER PROBLEM. WMC'S procedure for carrying out its part of the over-all program will work as follows: Applicants for jobs at the USES offices will be offered a choice of several mills with specific attention directed to the wage scale prevailing at these mills, thus in effect funneling applicants to those mills that have already adopted the WLB minimum-wage standards.

The chief recruitment difficulties, as WMC sees them, are:

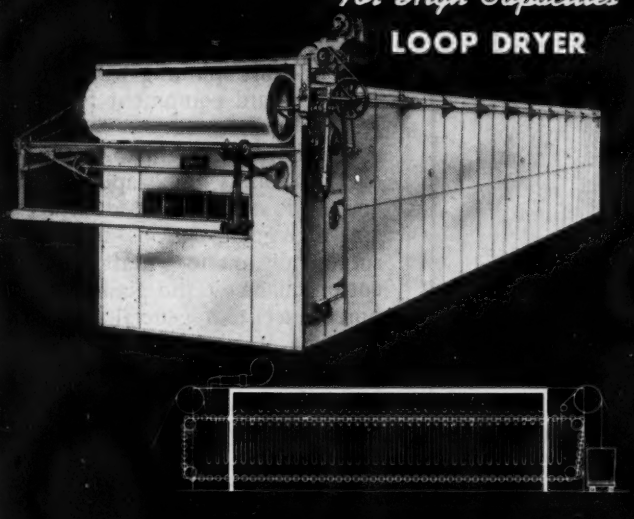
1. Inability of the mills to compete for labor with high-paying industries. WMC feels that the 55¢ wage would be sufficient, if generally adopted, to take care of employment problems.
2. Housing and transportation problems espe-

A New Application for Two Proven Proctor Dryers . . .

CURING RESIN TREATED FABRICS

For Moderate Capacities

ROLLER TYPE DRYER



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LOOP DRYER

Here are two Proctor Dryers—each with a proven performance record—which now can be equipped for high temperatures and air circulation necessary to curing resin treated fabrics.

The Proctor Roller Type Dryer is particularly well suited where production requirements are *moderate*. Because of the manner in which goods are carried through by means of rollers, it is sometimes possible for this machine to be supplied as a COMBINATION DRYER and CURER! This is an important factor to remember about this highly efficient machine!

When greater production requirements must be achieved, the Proctor Loop Dryer is recommended. This machine is really extremely versatile. Used in many mills for the drying of a wide variety of piece goods, it can be designed to perform equally well as a curer. Preparatory to curing, goods should be pre-dried on a tenter frame to assure drying to the proper width.

If you have a curing problem—one of these two "proven performance" machines can meet your requirements. Specific recommendations can be made intelligently when our engineers know ALL THE FACTS of your particular problem. Write today—let our engineers recommend the machine best suited to your needs!

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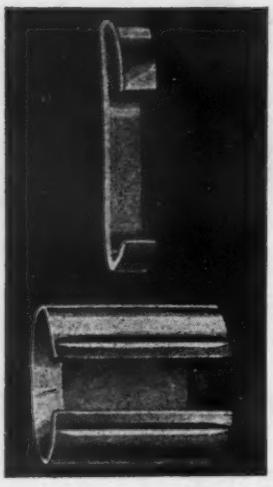

Minimize
"LOADING UP"
of the Traveler
in
COTTON SPINNING
use the

BOWEN
PAT'D

BEVEL EDGE

FOR SPINNING AND TWISTING

On cotton spinning the "Bevel-edge" greatly reduces the trouble.

The Bowen Patented Bevel Edge feature of U. S. Ring Travelers produces ideally smooth, even yarn. There are no angular edges to flatten the end. There are no split ends in throwing rayon and silk — no fly waste in the spinning and twisting of cotton, wool, worsted, asbestos, kindred fibres. Made and stocked in all sizes and weights, for all kinds and counts of yarns.

PERFECT BALANCE Weighs same on both sides. Straight part of shank is in center of gravity. Distributes lubricant and wears evenly. Will not pivot twisting self and rayon.

THE NE-BOW Prevents yarn ends flying out, provides ample headroom for threading—prevents binding on ring. Note "bend inward" at top of horn.

HEAT CONTROL for better metal—dominates "U.S." production! Carburizing and tempering ovens are electrically controlled through pyrometers —for better performance.

● **SOLD UNDER THESE TRADE NAMES.**

Bowen Round Point Travelers
Bowen Square Point Travelers
Bowen Improved Vertical Bronze
Bowen Patented Bevel Edge
Bowen Flat Opal and Round Wire Traveler
Bowen Patented Ne-Bow Vertical
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U.S. RING TRAVELER CO
AMOS M. BOWEN
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PROVIDENCE RHODE ISLAND

Sensitive SPUN RAYON

Perfectly Conditioned by "H-W"

Conditioning spun rayon, which is so highly sensitive to moisture, is perfectly accomplished by "H-W"—as is treatment of Silk, Wool, Nylon and Cotton Yarns. See the TEXTILE WORLD YEARBOOK or write for the latest Bulletin.

THE INDUSTRIAL DRYER CORPORATION
STAMFORD, CONN.

cially in the smaller communities and in the South Atlantic states.

3. Undesirability of night shifts. The work must be made more attractive. Incentive pay, facilities, and equipment must be improved.

4. Lack of skilled workers, weavers, doffers, etc., necessary to restaff the third-shift operations.

5. Low entry wage paid to learners, which is 40¢ an hour in many plants.

6. Absence of well-organized training courses for beginners with guaranteed wages. A program is getting under way but requires the cooperation of industry to make it effective.

Employers have reported to WMC a need for 60,000 added workers by September, 1945. Of this number, 25,000 are needed at once. Weavers, spinners, and doffers are needed for about half of the openings and for a third are wanted unskilled workers, the remaining number being miscellaneous types.

INTENSIVE PROGRAM. To increase employees by 60,000 before September, interested government agencies in cooperation with industry will carry out an intensive program designed to:

1. Channel workers, especially textile workers released from war production, back into textile industry.

2. Extend to a larger portion the 5¢ per hour premium differential paid to third-shift workers.

3. Increase the hourly entry wage of unskilled persons to the 55¢ rate allowed by WLB.

4. Strengthen in-plant training and upgrading programs to provide badly needed semiskilled and skilled workers.

5. Improve housing and transportation facilities in many localities.

Long Draft

(*Continued from page* 93)

Long-draft spinning will be considered standard equipment for the various yarns discussed.

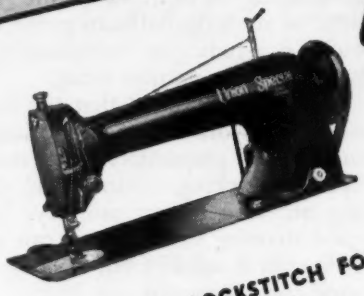
Another variable factor in any yarn organization is the staple, character, and grade of cotton used. Since low- and high-grade cottons are processed successfully on long-draft equipment, cotton character and grade will be ignored except in general reference to the type of fabric or yarn being produced. It is generally understood, however, that some reduction in draft is necessary for low-grade cotton. Table II shows some of the staples of cotton and the yarns made from them. Table III gives the yarn-contraction percentage which is used to figure the organizations in this series of articles.

LONG-DRAFT USAGE. As a basis for a study of long-draft carding and spinning organizations, it is believed that a conservative range of drafts and doublings should be used. Having these as a check-list, a mill may review its own set-up and possibly make adjustments which will permit a greater return on

Meet the need...

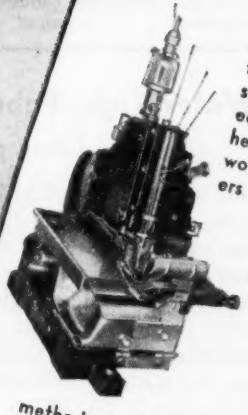
MAKE STILL MORE GARMENTS
. . . with Union Special Machines

Forestall shortages! Civilian wardrobes are wearing thin — war workers' clothing is showing the results of constant hard wear— the Armed Forces must constantly replace clothing and other sewed equipment. No matter *how* well you are doing on the Home Front Battle of Production — you'll have to do better. Here's where Union Special machines — specifically designed for each sewing operation — are your greatest allies, giving you speed, economy of operation, unfailing production, ease of operation, and dependability under gruelling usage. Keep in touch with your Union Special Representative — let him help you get the most from your machines.



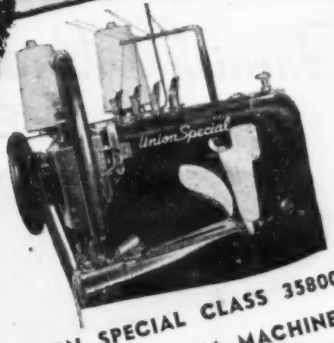
UNION SPECIAL LOCKSTITCH FOR ALL PLAIN SEWING

One of the sturdy, high-speed pieces of essential equipment on which Needle Trades plants depend is the Union Special Lockstitch Class 61300 machine for all plain sewing. Its simplified design and exclusive lubrication system are the basis of low maintenance costs. Also, it has a leakproof transmission sealed in oil, a positive feed to produce uniformity in stitching, and dual main shafts, the lower one gear-driven—an exclusive Union Special feature. The Lockstitch is for all plain sewing on all types and weights of fabrics. It is universally used in making clothing, as well as household items and other sewed articles. Makes stitch Type 301.



UNION SPECIAL CLASS 39200 OVERSEAMERS

Low cost production, and high-speed, high-quality work is obtained with the Class 39200 Overseamers. For overseaming, overedging, blind stitch welting, and hemming on all types of knit or woven materials, these overseamers offer advantages not found in other machines. They allow split second stopping and starting on short runs. They operate at high speed, yet more smoothly and quietly, because of the simplicity of their design. Fine thread may be used because the improved method of thread handling reduces thread breakage to a minimum. The gravity-capillary oiling system means longer life and less maintenance; it also eliminates soiling of materials caused by oil spotting.



UNION SPECIAL CLASS 35800 FEED-OFF-THE-ARM MACHINES

Class 35800, Union Special's famous feed-off-the-arm machines, combine high speed production with fine quality of work in double or triple stitch tubular felling operations. Machines feature increased underarm space, improved thread handling, positive feed, improved lubrication and many other advantages.

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Fits Army
Fabrics for Global War . .

Fabrics that must meet the rigors of today's world-wide war, need every good characteristic that you can impart.

DRUMMOND SOAP

Gives fabrics a good start on their career for Army, Navy, or civilian use. For DRUMMOND Soap contains no filler of any kind . . . It's a high-body product of low alkali content . . . It has a high binding quality that results in minimum flocking . . . Saves on steam and water because it rinses easily and completely . . . Better fulling and scouring . . . Leaves fabric perfectly clean with softest feel, better hand, brighter colors and whiter whites . . . Want to try it? Just write us today for a free working sample and test DRUMMOND Soap on your own goods.

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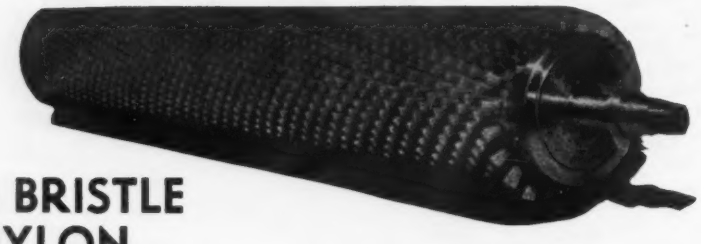
This Furnisher Brush Won't Bleed!
THE CORE IS METAL



THE BRISTLE IS NYLON

You can run red with this furnisher brush—wash it—and in a few minutes run green. The color will not bleed. The nylon bristle, set on the core with flat copper wire, and the metal core do not absorb color.

The Jenkins metal core furnisher brush has other advantages. Because the nylon bristle and the metal core do not absorb color, 10% to 25% less dyestuff is used.

The nylon bristle outlasts any animal or fibre bristle. Many printers have used these brushes for more than three years before having them rebristled. When the bristles do wear down, the metal core can be rebristled at our plant by our patented process.

M. W. JENKINS' SONS, INC.
CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

We also manufacture raising brushes, flock brushes, and laying brushes for cotton, woolen and worsted mills.

its investment in modern machinery. Undoubtedly, there are mills which are reluctant to use their long-draft equipment to the fullest extent; and a comparison of organizations may enable them to obtain a wider and more economical use of it. Mills which have little or no long-draft can profit from such a study in comparison to processes they are now using.

It should be stated that the fullest use of long-draft cannot be obtained unless the preparatory processes of opening, picking, carding, and drawing are functioning properly. With good drawing sliver, a mill can exact the greatest service from its long-draft roving and spinning.

Drafts, doublings, and package sizes will be kept within modern practice. Few short-draft processes will be included in these organizations, although some mills have found it desirable to retain some short-draft equipment. When possible, organizations will be checked against actual mill set-ups. Waste at cards and comber and twist contraction will be estimated. It is realized that these will vary from mill to mill.

To get the full advantage of long-draft at the roving and spinning processes, draft should not be extended beyond the limits of practical usage; and these organizations will adhere to a conservative balance between drafts and doublings.

(Subsequent articles will discuss organizations for carded and combed yarns, with due consideration for improved processes.—Ed.)

Water-Tight Fabrics

(*Continued from page* 107)

ting while in a stretched state. On the basis of special tests for swelling and for yarn packing, as devised at the Southern Regional Laboratory, yarn mercerized under high tension was more promising for fire hose than unmercerized cotton yarn processed in various ways to remove air space and elongation; but it is questionable whether the added expense of mercerization is justified by a corresponding advantage in practical results when a suitable swellable finish is used.

OTHER ADVANTAGES. In addition to its direct contribution to the swelling capacity of the yarn, the swelling agent has other important effects. It acts as an adhesive to hold the fibers closely together, and thus to reduce the air space; it makes the yarn compress more easily so that it beats up better and stays in place when woven; it makes possible the use of the better swelling, low-twist yarns because the adhesive effect brings their strength up to that

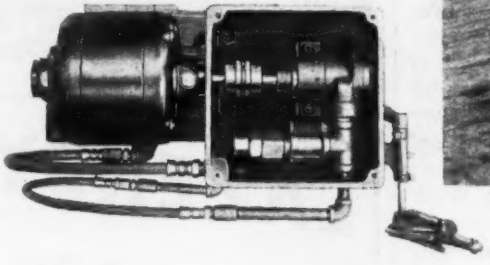
Feather Touch

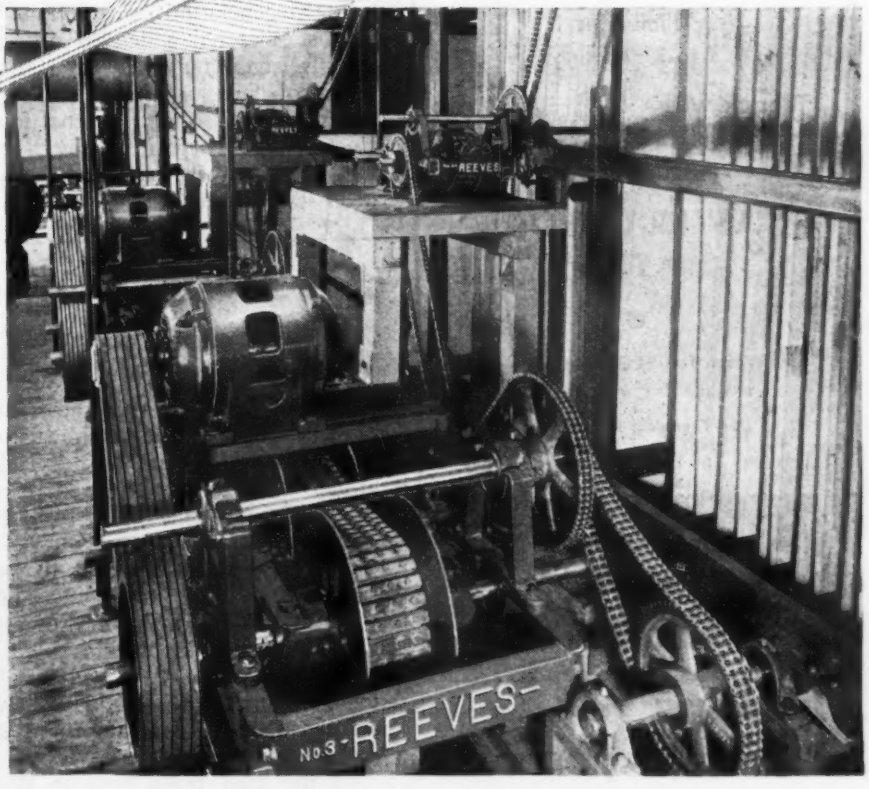
AUTOMATIC SPEED CONTROL

REEVES

HYDRAULIC AUTOMATIC

Activated by only Ounces of Pressure





REEVES Transmissions with Hydraulic Automatic Control driving squeeze rolls in dyeing unit of finishing range.

● REEVES sensitive, piston-type Hydraulic Automatic Speed Control enables you to run cotton, wool, rayon or any synthetic material in a continuous process without stretch on cloth.

So sensitive is the REEVES control that pressure of only 1 to 2 ounces through follower roll, dancer roll or other activating force will produce changes in speed to regulate tension automatically and precisely to the degree desired.

Pictured above is section of a Continuous Indigo Dyeing Machine completely equipped with REEVES Hydraulic Automatic Tension Control. In this range, cloth passes from one machine or section to another with NO intermediate handling.

After carbonizing, scouring and fulling, cloth passes into the first dyeing machine, followed by oxidation in the skying machine. It then goes into a second dyeing machine and a second skying machine before being taken to the folder.

To regulate the speed of the cloth throughout entire process, one machine is driven by a 3 h.p. REEVES Motodrive, with Electric Remote Control and remote position indicator. The carbonizer is driven through a REEVES Transmission with Hydraulic Automatic Control as are scouring machine, fulling machine and squeeze rolls on the two dye tanks. Each of the two skying machines is driven through a REEVES Transmission with manual control, driving from the variable speed shaft of the Hydraulically Controlled Transmission on the preceding dye tank.

With the hydraulic controls operating from the dancer rolls, cloth tension is regulated and all machines thus equipped are automatically synchronized with the one that is manually controlled.

REEVES "feather-touch" automatic speed control insures faster, more uniform textile production. It is simple, rugged, easy to service and maintain. It is tried and proven by many applications in range finishing—on beaming warpers, slashers and other winding processes. Our "field" engineers are thoroughly experienced in textile processes. Write us. Ask for copy of catalog W-450 and special information on REEVES Hydraulic Automatic Speed Control.

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Recognized Leader in the Specialized Field of Speed Control Engineering

REEVES *Accurate Variable* SPEED CONTROL

QUALITY RICHMOND PRODUCTS

Less
Handling with

AFTER CHLOR

eliminates
3 to 5 handlings

Bleach with
HYPOCHLORITE
Rinse and Use

AFTER-CHLOR
That's All!

Write for FREE Sample—
enough for a Trial Run

Our Technical Department
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Thinking yet
about your
Postwar

YARN THROWING
MACHINES
? ? ? ?

You will profit by planning today to use, when the war is over, the improved yarn throwing machines of U. S. Textile Machine Co. Currently, Uncle Sam is getting our production efforts. But research and development is continuing on a large scale. And when peace comes, these will be available to you—offering newest, most modern features.

Plan to Use These Products

U. S. ACME TWISTERS for spool or headless package.

U. S. JUMBO FACE DRIVE TWISTERS for large Headless Package work.

U. S. ACME DOUBLE-TWISTERS—large Package.

U. S. REDRAWS and Spoolers.

U. S. TEXTILE MACHINE CO.
SCRANTON, PENNSYLVANIA, U. S. A.

of comparable yarns of normal twist; and the treated yarn retains its strength upon wetting, and wets readily in comparison with untreated gray cotton.

Application of the cellulose derivative directly to the piece would be much more convenient for flat goods than treatment in the yarn form. However, a simple film formed in this way tends to break up from contraction during regeneration and drying. In contrast, material added to the yarn remains largely on the outside of the individual ends and picks, so that it comes between them in the fabric structure just where it will swell into the small interspaces and be most useful in sealing the fabric.

Glass Block Windows

(*Continued from page 119*)

tage in its insulating effect and reduction of heat losses in the winter season. Careful tests have shown that the B.t.u. loss per sq. ft. per 10-hr. through glass block is 0.49 compared with 1.13 for single glazed sash, the kind we are using.

Table I shows that outside temperatures must be 13° to 20° F. lower to cause condensation on the inner surface where glass block is used as compared with single glazed sash of steel or wood. This means a lower maintenance cost and improved appearance in the room.

All the glass block here at Ware Shoals has been installed by our own construction crew with no previous experience in this type of work. Instructions from the manufacturers are intelligible and reasonable. Advice is given by their representative whenever called for, and this we have found valuable. In wide areas a reinforcing "wall tie" is used to bind the material firmly together and resist wind pressure. Expansion joints are required at sides and tops of all panels. Only cement mortar is used for the ¼-in. joints required. And where special fitting is called for under arches, or around pipe openings, ventilators, etc., clay brick can be used as a filler around the block panels, then plastered to give a neat finish.

VENTILATION. Up to this time we have been making our own wood ventilating section as shown in one of the photographs, but there is now on the market a special wood frame and sash which comes fitted complete with hardware, anchors, expansion joints, with or without screens, and is properly designed to fit in with the standard block. Besides furnishing venti-

(*Continued on page 202*)

FOR FULL
EFFICIENCY

To develop the full efficiency of cards, equip them with BOOTH Card Clothing. There is a complete line; Cylinder Clothing, Doffers, Workers, Strippers, Angle Strippers, Tumblers, Fancies, Rings, Lickerins, Feed Rolls, etc.

BOOTH
QUALITY
Card Clothing

Has a firm foundation of fabric or leather, yet is flexible, which reduces the possibility of shelling out. All clothing is available with rehardened points if desired.

Benjamin
Booth Co.
Allegheny Ave. & Janney St.
PHILADELPHIA 34, PA.

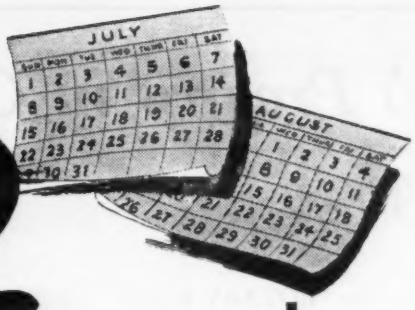
LAZENBY

WINDERS
● COP
● BUTT
● BOBBIN

KEEP your machines at top production with Maintenance and Repair Parts from our stock.

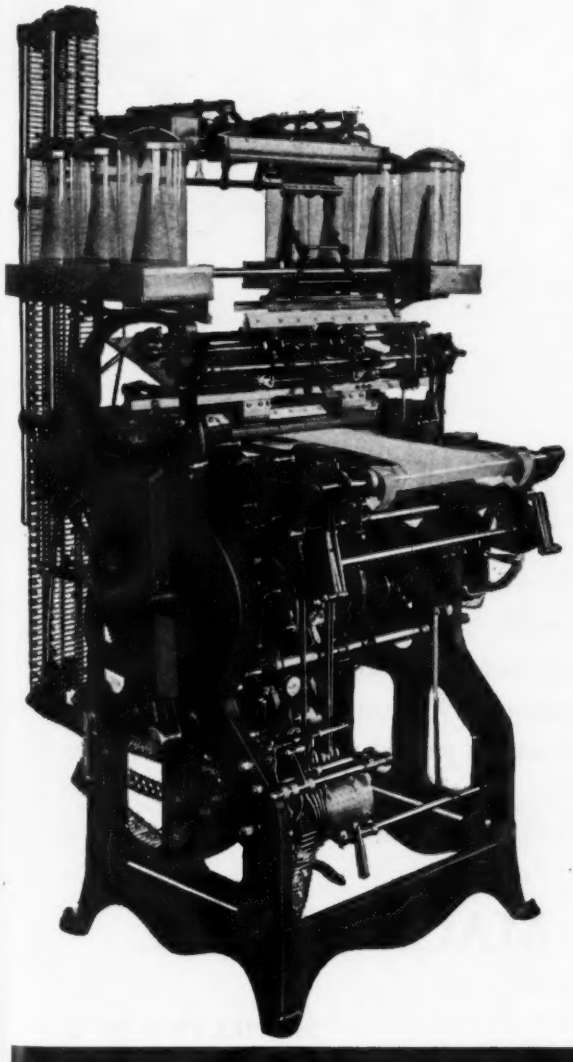
And because Genuine Lazenby Parts are manufactured according to specifications and design drawings, correct fit and satisfactory operation are assured.

F. A. LAZENBY & CO.
31 E. Lee St. Baltimore, Md.



some say 2 months, some say 2 years

but YOU'D *better be* READY



to adequately meet the tide of competitive selling in sheer stockings that will rush in after V-J Day. The time to plan and prepare is right now. As soon as possible, change to

THE WILDMAN

Single-Head, Single-Unit, Full-Fashioned

HOSIERY MACHINE*

Post-war problems have no terrors for this modern machine. It handles synthetic yarns of all kinds in very fine gauges. It knits the entire stocking in one continuous operation, perfect from top to toe in color and texture, thus eliminating the bad matching of leggers and footers and the time lost in their changeover. Look ahead!

WILDMAN MFG. CO. Norristown, Pa.

** Because of war work, production for civilian purposes is limited to repair parts.*

A Century's Progress in Circular Knitting

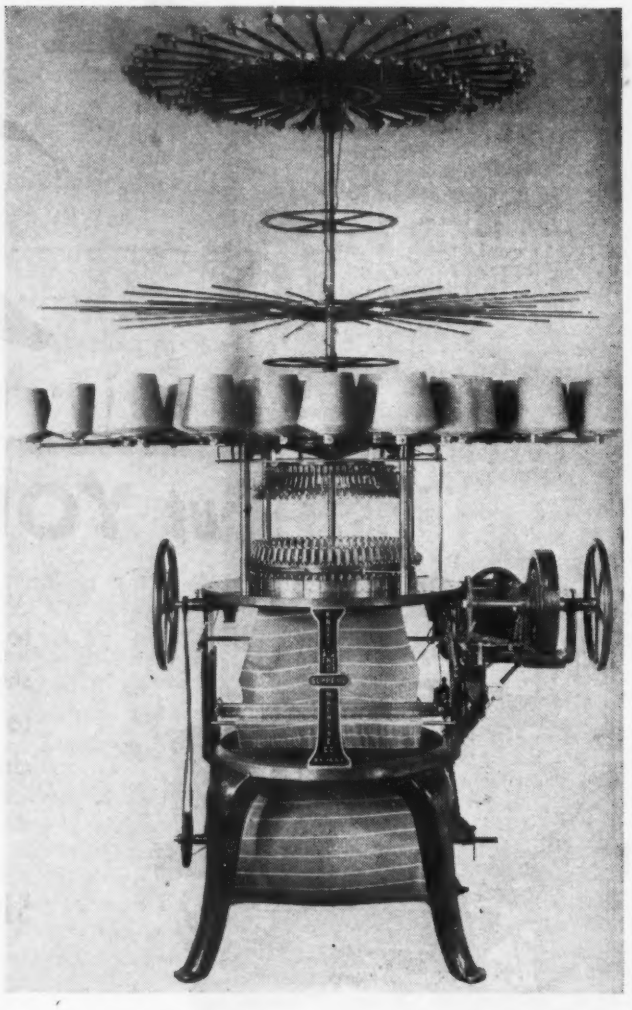
1845

The "ROTARY KNITTING LOOM" — invented by Erasmus French, of Springfield, Mass. in 1845, was said to "knit one sock per hour."

Perfected by development of the latch needle, the circular machine went through many stages of improvement over a long period of time, until the modern machine was evolved.

1940

(Type M.J.O.—20"—64 Feed)



Type MJO-20"-64 Feed SUPREME Machine

Three Star recognition in War work is the record of the very same men who designed and formerly produced the outstanding circular machines in the field—equipment with performance records that have enabled manufacturers to produce the large amounts of fabrics required for both the Armed Forces and Civilian uses. These machines are SUPREME in their field of operations, past, present—

And—For POST-War

SUPREME has developed a machine unlike any circular machine ever produced in this century of progress.

Our 30 years of experience, plus the knowledge gained from the highly specialized technical work we are doing for the Armed Forces, enabled us to design this SUPREME Post-war model.

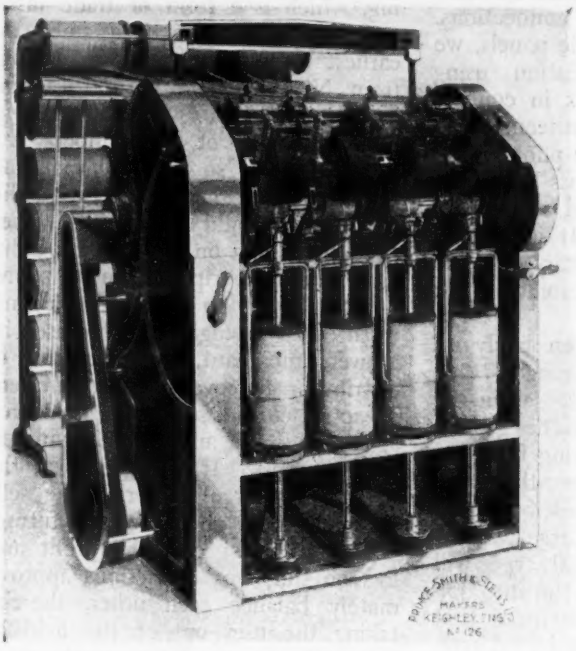
When can you see it? When can you buy it? —depends to some extent on when the Armed Forces release us from our present obligations. We are accepting orders now and business placed will naturally take precedence when SUPREME'S POST-WAR MODELS are available.

SUPREME KNITTING MACHINE CO.

Telephone Evergreen 8-6417

105 JOHNSON AVE. BROOKLYN 6, N. Y.

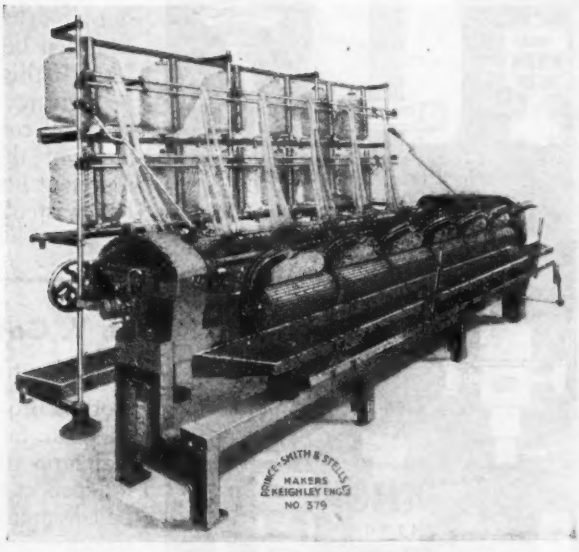
WORSTED



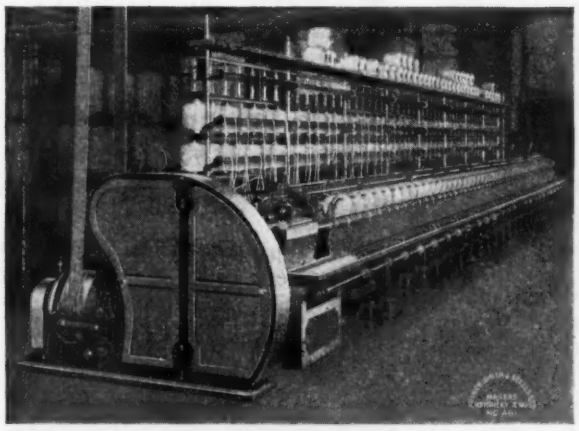
ENGLISH DRAWING BOX

ENGLISH, ANGLO - CONTINENTAL AND CONTINENTAL SYSTEMS.

WE MANUFACTURE MACHINERY CAPABLE OF PRODUCING ALL QUALITIES AND TYPES OF WORSTED YARNS.



ANGLO-CONTINENTAL DRAWING BOX



CONTINENTAL DRAWING BOX

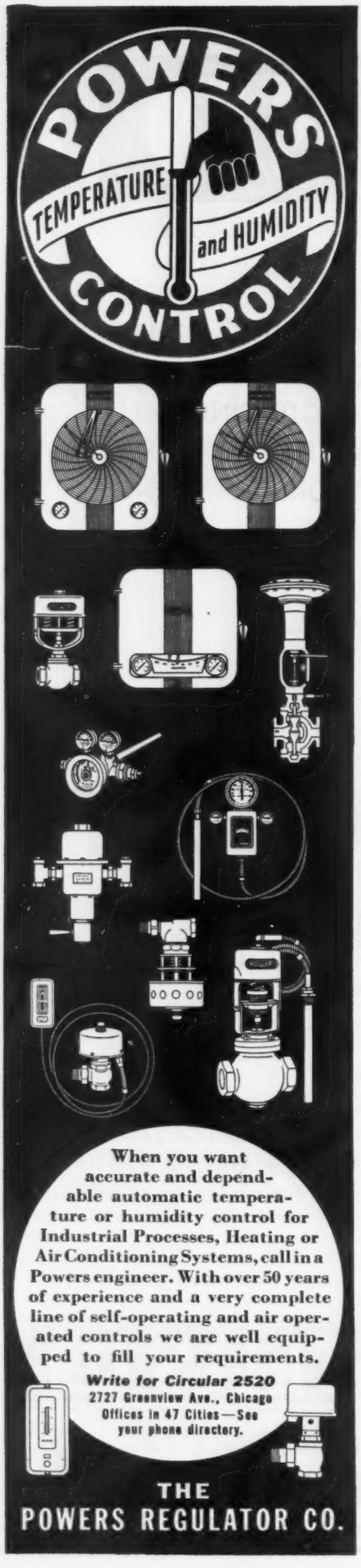
WHEN YOU ARE CONSIDERING ANY EXTENSIONS OR ALTERATIONS TO YOUR PLANT MAY WE HAVE THE PLEASURE OF OFFERING YOU OUR SERVICES.

PRINCE-SMITH & STELLS LTD.

WORSTED MACHINERY MANUFACTURERS

KEIGHLEY (Yorkshire) ENGLAND

Agents: Atkinson, Haserick & Co., 211 Congress Street, Boston, Mass.


POWERS
TEMPERATURE and HUMIDITY
CONTROL
When you want accurate and dependable automatic temperature or humidity control for Industrial Processes, Heating or Air Conditioning Systems, call in a Powers engineer. With over 50 years of experience and a very complete line of self-operating and air operated controls we are well equipped to fill your requirements.
Write for Circular 2520
2727 Greenview Ave., Chicago
Offices in 47 Cities—See your phone directory.
THE
POWERS REGULATOR CO.

(*Continued from page* 198)

lation, this special section provides a means for the employees to look out without difficulty, a point worth consideration.

We use "light directional" block above eye level which gives a maximum of light transmission without glare, and a regular, non-glare block below eye level. It is manufactured by the Owens-Illinois Glass Co. and furnished through local connections. In addition to the outside panels, we have made one installation using standard decorative block in connection with our bleachery canteen. Three walls of the canteen (see photograph) are constructed of the glass block and the result is pleasing and satisfactory from every viewpoint. It is cleaned easily, always strictly sanitary, and has a good influence on the morale of our workers.

Much has been wirtten lately on the subject of postwar changes. One development we expect to see in the not-too-distant future is the general adoption of air-conditioning for comfort. If this comes to pass, there will be a greater need for insulation in the side-wall construction. Large window areas of the conventional type will represent heat losses that run into dollars wasted. We are convinced that the glass block will fill a real need here.

N. Y. Cotton Exchange

(*Continued from page* 91)

Cotton Brokers, but failure to provide adequate facilities left it without general support. In 1870, the idea of an independent exchange took form, based somewhat on the then existing securities and gold exchanges, and the New York Cotton Exchange was set up in a single room, 23x100 ft., at 142 Pearl St. The trading ring in those days was a gigantic iron stove in the center of the room.

On May 4, 1872, members moved to the building at the head of Hanover Square, subsequently known as India House, where an exchange room 70 x 40 ft. was provided. On April 30, 1885, after five years of planning and building, the exchange moved to its present site at the corner of Beaver and Pearl Sts., into a building erected for its use, with a trading floor 108 x 71 ft. This building was superseded in 1924 by the present 18-story edifice with its much larger trading floor. At the time of its organization, the exchange had about 100 members; it now has 430.

The New Orleans Cotton Exchange was organized in 1871, and shortly after rules of trading similar to New York's were adopted by the Liverpool Cotton Association. Trading in cotton futures was started by the Chicago Board of Trade in 1924. There are exchanges in Alexandria, Egypt, and Bombay, India; and as late as 1927, a cotton futures market was established in Osaka, Japan. There were also cotton exchanges at Havre and Bremen.

USE OF FUTURES CONTRACT. Hedging, which is a form of trade insurance, had been practiced since the earliest days of clipper-ship trading from New England ports to China and the East. In essence, it was originally the sale of a commodity for future delivery so that the manufacturer who used that commodity as his raw material could in turn sell finished goods in China on one trip for delivery on the next trip some months later without having to gamble on raw-material costs. Hedging may be used by grower, merchant, manufacturer, or distributor to cover his commitment on actual cotton, so that he is insured against loss by an adverse swing in market prices. If he is long on the market for actual materials, he sells futures; if he is short, he buys futures —and in either case the profit and loss on the two transactions approximately balance each other, thereby taking the user out of the field of speculation on the future of the commodity or the goods. Developed from the marketing of the cotton crop itself, there has arisen the currently widely used futures markets in cotton and other commodities. The 75-year old New York Cotton Exchange is the organization which has led the way.

Textile Equipment News

(*Continued from page* 136)

necessity for expansive re-heating equipment.

This apparatus meets the demand for an inexpensive de-humidifier for textile testing laboratories, for printing

Air conditioning and dehumidifying unit (American Coils)

FOR PEAK EFFICIENCY IN PROCESSING WOOLENS *use* Olate

On tap in every tissue-thin flake of Olate are a number of very worthwhile features important to you as a processor of woolens or worsteds.

Let's start with Olate's low titer—a feature which explains its ready solubility. Olate solutions are extremely fluid. They penetrate fibers quickly and evenly . . . provide excellent safeguards against uneven shrinkage and non-uniform fulling.

Equally important are Olate's splendid emulsifying and lubricating properties. You can count on safe, thorough fulling and scouring with Olate.

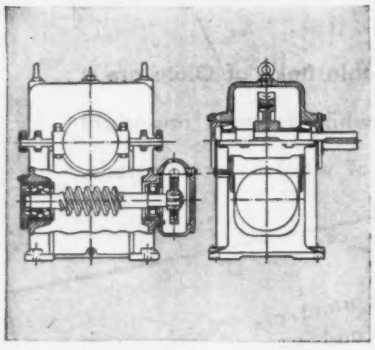
Finally, there's the fast, thorough rinsing you get with Olate. Here is a big safety factor which means protection against rancidity, odor development and fabric discoloration.

Olate is helping many a busy textile mill to guard against costly, time-wasting tie-ups and rejects. There's a place in your mill where Olate can prove itself quickly.

Procter & Gamble

Olate .. Safe and efficient for every textile soap usage

LUBRIPLATE
No. 8



FOR HEAVY GOING

LUBRIPLATE No. 8 possesses an extremely high film strength and is just the correct density for the general run of enclosed gears (speed reducers). It is especially suitable for worm gears and other types carrying heavy loads. Typical of all LUBRIPLATE lubricants, No. 8 has exceptionally long life.

℞ FOR YOUR MACHINERY

No. 3—Ideal for general oil type lubrication. Ring oiled bearings, wick feeds, sight feeds and bottle oilers.

No. 8—Because of its high film strength and long life reflects outstanding performance in most types of enclosed gears (speed reducers).

No. 107—One of the most popular grease type products for general application by pressure gun or cups.

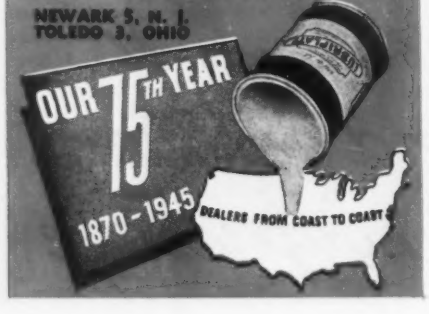
No. 70—For a wide range of grease applications, especially at temperatures above 200 degrees F.

No. 130-AA—Known nationwide as the superior lubricant for open gears, heavy duty bearings, wire rope, etc.

BALL BEARING—This is the LUBRIPLATE lubricant that has achieved wide acclaim for use in the general run of ball and roller bearings operating at speeds to 5000 RPM and temperatures up to 300 degrees F.

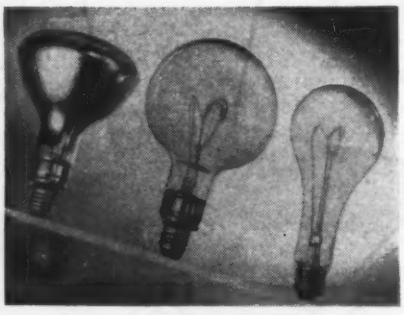
Write for a booklet, "The LUBRIPLATE Film", written especially for your industry.

LUBRIPLATE
FISKE BROTHERS REFINING CO.
NEWARK 5, N. J.
TOLEDO 3, OHIO



plants, and for processing nylon. The conditioner operates automatically, being controlled by a humidistat temperature control and a solenoid valve. The condensing unit is set to defrost automatically on each off-cycle. Since the air entering and leaving the unit bypasses the cooling coil, de-humidification is accomplished without appreciable loss of temperature. If desired, cooler temperatures may be obtained by a slight manual adjustment.

New Infra-Red Lamps For Changing Temperature



New infra-red lamps change oven temperatures (Sylvania)

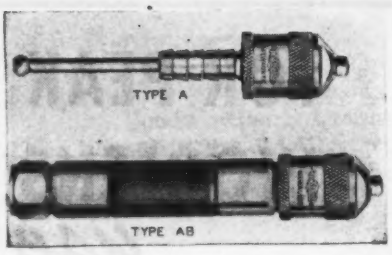
Seven new infra-red lamps for industrial heating have been announced by Sylvania Electric Products, Inc. The wattages of the lamps range from 125 to 500. Four of the seven lamps are of the clear-drying type, and three of them are of the reflector-drying type.

The clear-drying types provide a constant heat-center length, which permits a change in oven temperature simply by substituting lamps of suitable wattage; reflector changes are unnecessary. The reflector-drying types offer an inexpensive and flexible infra-red heating source for many drying and processing applications. The use of medium-skirted bases provided with most of these new lamps eliminates loose bases during their life. This type of base is locked to the bulb mechanically and without the use of cement.

Air Gun for Cleaning

A leakproof air gun for blowing lint, fly, dirt, and dust from around textile processing machines is being produced by Trico Fuse Mfg. Co., Milwaukee 12, Wis.

A slight finger-tip flexing of the hose discharges a small puff or a full blast of air as desired. Operation is instantaneous and positive. Savings in air, power, and compressor maintenance costs result. Levers, buttons, and gaskets or glands are eliminated by the streamlined design. The patented ball-and-socket valve joint has only two moving parts. Air pressure helps close the valve tightly when finger-tip pressure is released.



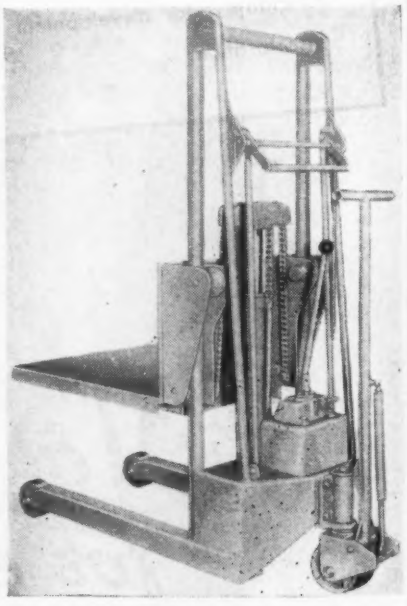
Air gun operated by flexing the air hose line (Trico)

The type "A" is the most popular style for permanent applications. Type "AB" is recommended for remote-control applications. It is attached directly to the air pipe line and operated by hand, knee or foot control.

Hydraulic Lift-Truck for Lift and Tiering

Development of a small, efficient hand-operated type of lift truck for use by cotton mills and by other textile mills has been made by Lyon-Raymond Corp., Greene, N. Y.

This truck, weighing 495 lb., may be handled by one man and turned within its own length. The hydraulic lift permits rapid lifting of loads or lowering of them to or from a height of 48 in. It is made of tubular- and formed-steel construction. Bearings are Timken. A floor lock, equipped with a quick releaser, holds the truck in position during lifting. A finger-tip lowering control is provided. Platform is 24-in. wide and 30-in. long. Capacity is 1,000 lb.



Hand-operated lift truck (Lyon-Raymond)

How to Simplify Your Desulfurizing Operations

HOOKER CHEMICALS

PREPARATION of desulfurizing baths is now merely a matter of pouring flakes directly from the Hooker Sodium Sulfide drum into the desulfurizing bath. You can eliminate those time-consuming and annoying settling and decanting operations—remove doubts about the purity of your solution—stop throwing away good chemicals in the sludge.

Hooker Sodium Sulfide is of such purity that you can make up your desulfurizing solution *when* you want it with no more effort than to pour the sulfide into the bath. This simple method is reported to have been in continuous use for over a year by several rayon producers. Why take chances on having impurities in the desulfurizing bath spoil your yarn in the final bleaching operation? You can be sure of freedom from metal and other foreign materials with Hooker Sodium Sulfide.

The alkalinity of Hooker Sulfide is fixed and controlled. Its extremely low content of free sodium sulfhydrate requires little or no adjustment to attain the desired alkalinity.

Hooker's Technical Staff will be glad to give assistance in the use of Hooker Sodium Sulfide and the other Hooker Chemicals. A request on your letterhead will bring you a copy of Hooker General Products List containing data on nearly 100 Hooker Chemicals.

HOOKER SODIUM SULFIDE
Na_2S Molecular Wt. 78.1

Description: Light yellow colored solid in flake form.

Solubility:

	gm sulfide/100 gm water
at 10°C (50°F)	15.4
at 90°C (194°F)	59.2

Hooker Specifications:

Purity	
Sodium Sulfide	60 to 62%
Sodium Chloride	1.5% Maximum
Other Sodium Salts	2.0% Maximum
Iron	10 to 15 ppm
All Other Heavy Metals	1 ppm Maximum
Water of Crystallization	36.5 to 34.5%

ARMY (E) NAVY

HOOKER ELECTROCHEMICAL COMPANY

8383

4 Forty-seventh Street, Niagara Falls, N. Y.

NEW YORK, N. Y. WILMINGTON, CALIF. TACOMA, WASH

Chlorine Muriatic Acid Ferric Chloride Caustic Soda Bleaching Powder Paradichlorbenzene Sodium Sulfhydrate

This New
COLOR SCIENCE
Optonics
will increase
EMPLOYEE
EFFICIENCY
in your plant

SEND FOR THIS Booklet

Learn how Optonics, the scientific use of color in industrial painting, speeds production, improves safety conditions, employee efficiency and morale, and reduces absenteeism. "Color Power for Industry", a new publication, describes the Optonic Color System. A note on your business letterhead will bring you a copy with our compliments.

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CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

Free FOR THE ASKING

MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on this page may secure copies with time-saving coupon on page 208. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. "Research from Start to Finish" is the title of a discussion on the processes of textile manufacturing by the Textile Research Dept. of the American Viscose Corp., Marcus Hook, Pa. The booklet points out and illustrates the preparatory processes of the cotton, woolen, and worsted spinning systems and follows textile processes from warping through finishing. Mill men who are not familiar with all of the spinning systems will find the booklet interesting.

2. War contract termination is the subject of a pamphlet issued jointly by the War and Navy Dept. under the title "Army-Navy Contractors Guide for Prime and Subcontractors." The pamphlet suggests methods of advance planning and illustrates practical procedures for settlement of terminated contracts.

3. The uses of rayon and nylon in the war are discussed in the May-June issue of *The DuPont Magazine*. Interesting facts and figures on the two synthetics are given, and the booklet is well illustrated with photographs.

4. "Dry Humidification" by means of the Air-Perme-Ator system is discussed in a leaflet issued by the Air-Perme-Ator Mfg. Co., Paterson, N. J. The system, it is stated, controls humidity by currents of saturated air rather than droplets of water or fog being sprayed by the machine.

5. A Guide for the Selection of Dyes to be used in dyeing spun viscose rayon fabric has been released by the Calco Chemical Div. of the American Cyanamid Co., Bound Brook, N. J. The bulletin is described as Technical Bulletin No. 775, entitled "Effect of Resin Treatments on Spun Viscose Rayon Dyed with Calcomine and Calcodur Colors." Tables list direct dyes of best resistance to Fade-o-meter exposure and give the shade changes of each color.

6. A Twist and Draft Chart for Whitin Wool Spinning Frame Model "E" has been prepared by the Whitin Machine Works, Whitinsville, Mass. The chart is especially prepared for frames with a 10-in. dia. cylinder, 1⅝-in. dia. whorl, and a main shaft speed of 600 r.p.m.

7. Centrifugal pumps are discussed in the booklet "Facts You Should Know About Centrifugal Pumps and Impellers," issued by The Deming Co., Salem, Ohio. The booklet is illustrated by pump photographs and sketches.

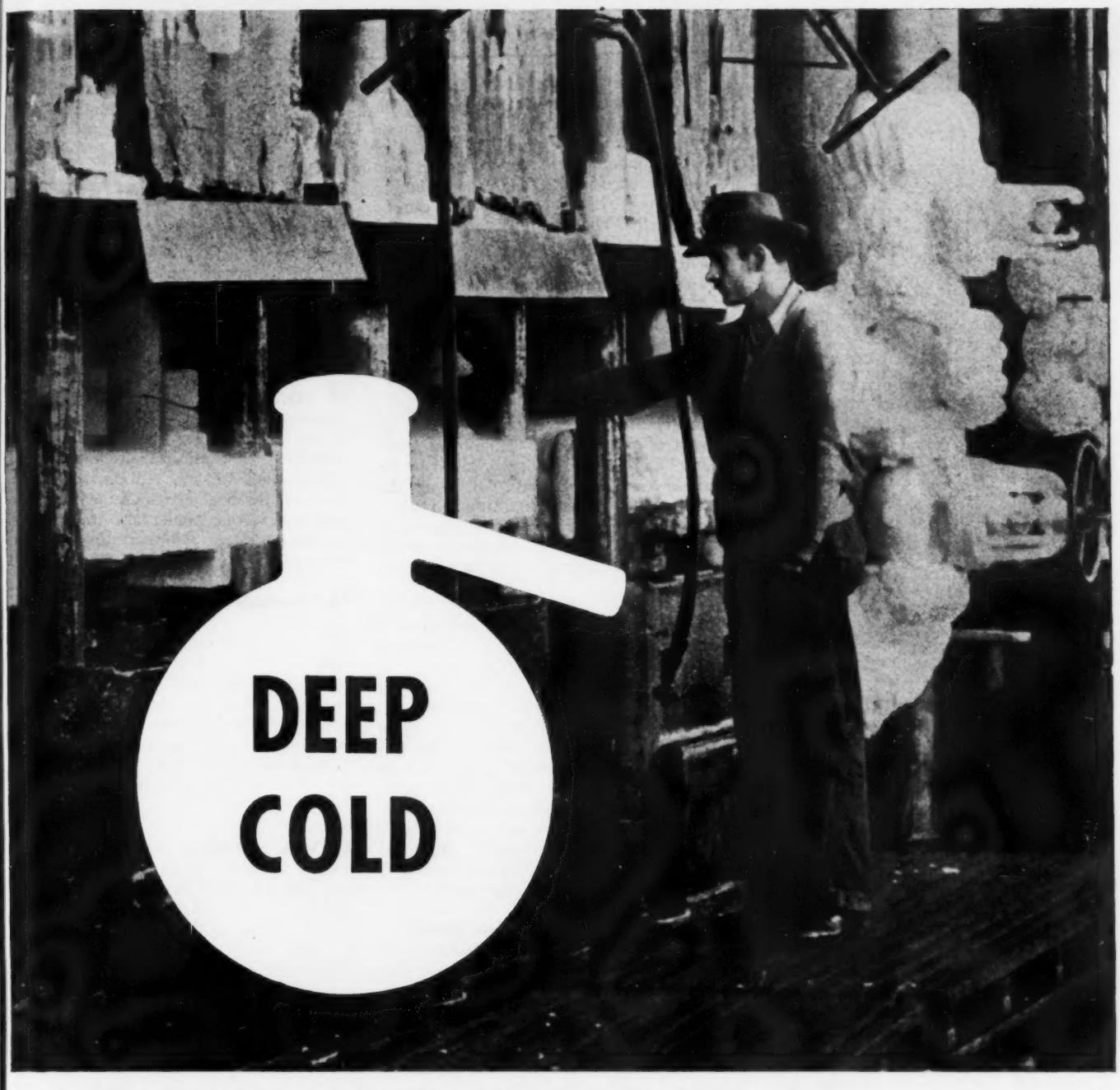
8. "Sunday Best" is the name of an article appearing in the May issue of *Good Living*, published by Allis-Chalmers Mfg. Co. Written in an informal manner, the article is good reading matter for the general public; but a short tribute to the textile industry makes it especially interesting to mill men. "Like every other branch of industry," the booklet states, "the textile people, faced by an enormous demand and scarcities of labor and materials, have met the challenge and delivered the goods."

9. Friction materials for industrial machinery are described in a new manufacturers' catalog issued by the Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc. The catalog describes an extensive line of friction materials of woven, folded and compressed, molded, semi-metallic, and full metallic types. Also included is a description of Raybestos-Manhattan laboratories and complete engineering facilities. The publication is well illustrated with photographs.

10. Eliminating a fire hazard in a dryer of the Pepperell Mfg. Co. is the subject of a short article appearing in the May issue of *Factory Mutual Record*. The article appears in the Plant Protection Clinic department devoted to "instructive losses that teach valuable lessons."

11. "Textiles—Past and Future" is the name of a short article appearing in the June issue of *Dyelines and Bylines*, published by Calco Chemical Div., American Cyanamid Co. Declaring that "one of the most fascinating episodes in man's history is the origin and development of what we call textiles," the article in a few paragraphs traces the growth of the textile industry from the period of making fishing nets from shrubs to the modern complex industry. Mechanical and chemical research are given full credit for this growth.

12. Specification of Color is the title



• *The Dry Ice Plant of Wyandotte Chemicals Corporation at Wyandotte, Michigan, is the world's largest. Each of its huge ice presses exerts a pressure of one million pounds. This, applied to carbon dioxide "snow," produces a 240-lb. cake of dry ice—140° colder than ordinary ice. Some of these cakes are seen ready to leave the presses.*

WYANDOTTE CHEMICALS CORPORATION

ONE OF THE WORLD'S GREAT PRODUCERS OF CHEMICALS

SODA ASH
CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE

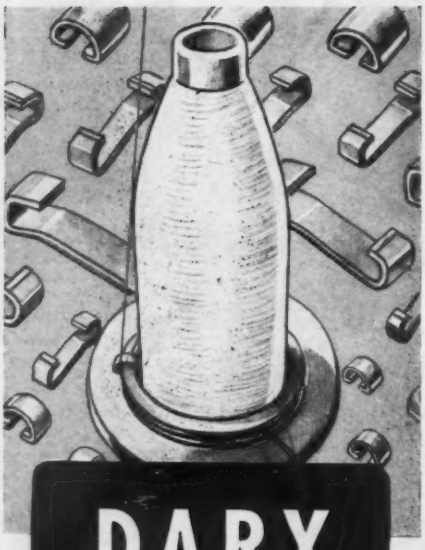
CALCIUM CHLORIDE
CHLORINE
HYDROGEN
SODIUM ZINCATES

AROMATIC INTERMEDIATES
DRY ICE
Other Organic and
Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
MICHIGAN ALKALI DIVISION • WYANDOTTE, MICHIGAN

Wyandotte
REG. U. S. PAT. OFF.

VITAL TO VICTORY TODAY—READY TO WORK FOR A GREATER TOMORROW



A Direct Route To Spinning Success!

You're on the right highway, following the direct route to better spinning and twisting, when you use famous Dary Ring Travelers.

These superior travelers are products of craftsmanship, manufactured under the rigid Dary process that assures uniformity and long life.

Whether or not you've got a spinning or twisting problem, it will pay you to meet the Dary representative nearest you—he's a trained technician ready, willing and able to help you, regardless of how large or small your problem is.

DARY
★ PROCESSED ★
SYMBOL OF SUPERIORITY

The DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEIL, BOX 720, ATLANTA, GA.
H. REID LOCKMAN, BOX 515, SPARTANBURG, S. C.

FREE FOR THE ASKING

of an article appearing in the Spring issue of *Interchemical Review*, published by the Research Laboratories of Interchemical Corp. The article advocates the use of a spectrophotometric curve as the basis of color specification, and shows how a color map based on this system can be constructed. The spectrophotometric curve, it is explained, would be very useful in matching one color with another. It is based upon the well-known principle that the effect of any color stimulus can be duplicated to a normal pair of eyes by applying red, green, and blue lights in proper proportions. Tables and graphs are used to illustrate the text.

13. Practical hints on decoration are given in the booklets "Thumbnail Decorator" and "Room Planner", issued by the Bigelow-Sanford Carpet Co. and distributed to consumers. Although these booklets are aimed at the consumer trade, they will be found of interest to textile plants manufacturing articles for household decoration.

14. "Laminating Yesterday and Today" is discussed in Catalog No. 118, issued by John Waldron Corp. The process of laminating is described as the operation of combining two or more plies of materials into a single structure by applying an adhesive to the inner surfaces. By this method, two lengths of cloth can be formed into a sheet of greater strength, and with greater protective qualities and finer finish than either one could provide alone. The booklet is well illustrated with pictures of laminating machines and sketches of how the machines work.

15. Water hose for industrial plants is the subject of a new catalog section published by the B. F. Goodrich Co. The section contains the latest data, sizes, number of plies, weight per hundred feet, outside diameter, and working pressures of three types of water hose.

16. The Weldco Steam Jet is presented in a folder issued by the Youngstown Welding & Engineering Co. This folder is illustrated with photographs of the jet and of its installation. Stating that the jet was originally designed for pickling tanks, the leaflet goes into detail on the adaptation of the steam jet to other types of industrial uses.

17. "This Is It" is the title of a booklet published by the Tide Water Power Co. Taking as its theme the individual and collective postwar responsibilities and opportunities of the citizens of North Carolina, the booklet points out how one particular section could take stock of its resources and set about creating postwar prosperity.

18. "Portable Infra-Red Equipment" is the title of a 4-page leaflet published by The Fostoria Pressed Steel Corp. The leaflet is well illustrated and stresses the industrial needs for mobile infra-red equipment. Four models are presented, and it is pointed out that their radiation coverage ranges from 275 sq. in. to 2,000 sq. in. Many angles from which the heating unit may be used are illustrated by artist's drawings.

19. Wire belt hooks for all types of flat belting are described in a recent publication issued by The Bristol Co., Mill Supply Div. The bulletin is liberally illustrated to show methods of applying hooks to belts. Information as to belt-hook specifications and prices are also given.

PASTE IT ON A POSTCARD

This mailing coupon is a convenient size to paste on a penny postcard. **Circle the numbers of the catalogs you want** which correspond to the numbers on the descriptive paragraphs. Fill out the coupon **legibly** and **completely.** Paste it on a postcard, or put it in an envelope if you prefer, and mail it to Textile World, 330 W. 42nd St., New York 18, N. Y.

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330 West 42nd St., New York 18, N. Y.

I have circled below the catalogs I want, as listed in your July, 1945, "Free for the Asking."

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My Name..... Title.....
(PLEASE PRINT)

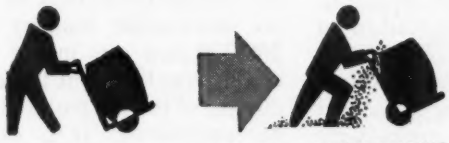
Company.....

Street..... City & State.....

DOES THIS WASTE OF MAN-HOURS EAT UP THE PROFITS IN YOUR PLANT?

Follow this worker and count the steps wasted

HERE'S LOST MOTION No. 1
TIME WASTED SHOVELING SALT



AND THEN BEGINS THE LONG HAUL . . .

LOSSES BY SPILLAGE MEAN THE SLOW LEAK OF MANY $ $ $

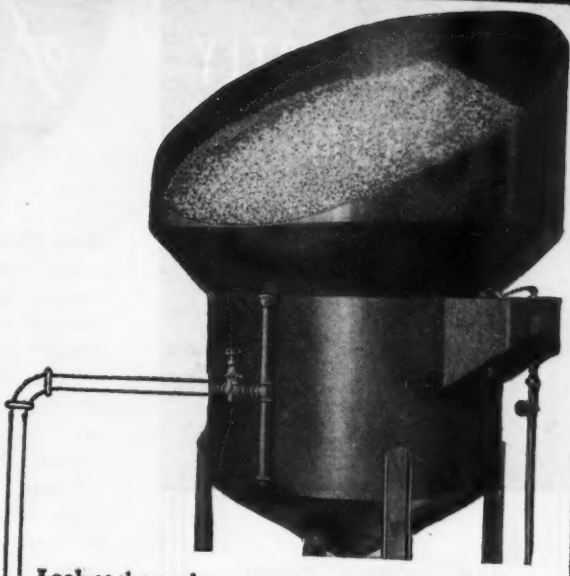
ACCIDENTS ON SLIPPERY FLOORS TAKE THEIR TOLL, TOO . . .

MORE BACK-STRAINING . . . MORE DELAY . . . MORE WASTE . . . THAT CAN BE ELIMINATED

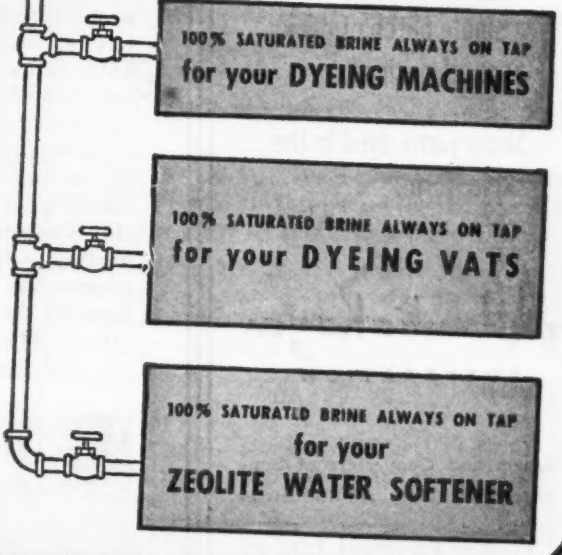
LABORIOUS STIRRING OF THE BRINE . . . WITH UNCERTAIN SATURATION

AND YOU HAVE TO REPEAT THIS LABOR-WASTING PROCESS FOR EVERY BATCH OF BRINE!

AUTOMATIC FREE-FLOWING BRINE SAVES WASTE!



Look at these advantages the Lixator brings you. *100% saturated,* free-flowing brine of *crystal clarity!* Economy in its gravity flow . . . in its mechanical perfection . . . in savings up to 20% . . . and in its utilization of economical Sterling Rock Salt! And remember—Lixate brine exceeds the most exacting chemical purity requirements.



100% SATURATED BRINE ALWAYS ON TAP
for your DYEING MACHINES

100% SATURATED BRINE ALWAYS ON TAP
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for your ZEOLITE WATER SOFTENER

The LIXATE Process *for making brine*

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Our package dyeing eliminates skein reeling.

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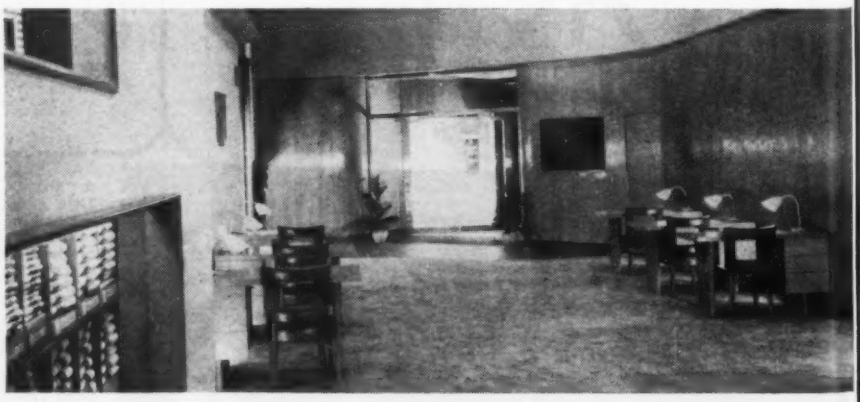
News of the month

More Civilian Wool Goods. Civilian wool yardage in the third and fourth quarters of this year will be on the increase according to WPB authorities. Already production has been upped to a point where last February marked an all-time high monthly record in apparel class wool consumption. March topped that record, being 6% over February. April 1 wool stocks were about 30% above wool stocks of a year previous. Convalescent wounded soldiers have been given 30-day furloughs from Camp Edwards to work in wool mills. The Army cancelled 4,000,000 yd. of 32 oz. melton overcoating on June 26.

Military Cutback. According to current estimates, cotton-textiles for military use will show approximately a 15% cutback from the initial allocation for the second quarter to the initial allocation for the third quarter. As for woolens, worsteds, and blankets, the sizable cutbacks will come in the fourth quarter. In the case of woolens and blankets, it is expected that production will about balance with requirements. In worsteds, look for cutbacks by the military of about 30,000,000 yd. The effect of the cuts in woolens and worsteds, as far as civilian clothing is concerned, will be a slow process. There will be no general easing until next spring. Sharp military cutbacks in cotton textiles will come because of the decision of the military to live off their inventory for awhile, rather than as a result of a cut in needs. Therefore such cutbacks can be regarded as a "one-time" reduction and at the end of three months it is altogether likely that some military orders may go up again. Part of the reason for emphasis on cuts at this time is due to the third quarter seasonal decline in production. In spite of cutbacks, the over-all supply for civilian use will drop. However, it is expected that conditions will be considerably improved in the fourth quarter.

Fabrics Scarce for New Cars. An unexpected bottle-neck in the plans of the automobile industry to produce 200,000 new cars in the last quarter of this year turns out to be the 6,000,000 yd. of textiles required for the new car equipment. It is expected that WPB will issue direct allocations to channel the necessary goods to the car builders. Possibly some looms now on the less needed descriptions of duck will be turned to head linings of which 1,000,000 yd. will be needed.

Inflammability of Consumer Textiles. Inflammability of textile fabrics is not necessarily due to the kind of fiber from which the fabric is made, but depends more upon the construction of the fabric and particularly on whether the fibers used are brushed out or are in the form of a long pile, it was stated by Dr. Frederic Bonnet, American Viscose Corp., in a talk on "Inflammability of Consumer Textiles" delivered before the June meeting of the American Association of Textile Technologists. When fibers are twisted together into a thread and then woven into a compact cloth with few or no



MARSHALL FIELD & CO., Manufacturing Division, opened a new sales office for Fieldcrest Domestics at 88 Worth St., New York, on June 21. This view is toward the entrance. The wall at the left is a partition between the two halves of the ground-floor show room. On the two floors occupied are also located executive and sales quarters, stock room, sample room, conference room, luncheon room for employees, and lounge room for women. Designers were Faber Birren, Joseph B. Platt, and Amos Parrish & Co.

FASTER MOISTURE ABSORPTION!

Superior Rewettability of NOPCO 2272-R Speeds Up Sanforizing Production

OTHER NOPCO CHEMICALS For Textile Processing

- Waterproofing Compounds
- Rayon Crepe Soaking Oils
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NOPCO 2272-R

A Versatile Wetting Agent

From the standpoint of rewettability alone, NOPCO 2272-R has an important bearing on the volume and quality of sanforized goods.

And, as one of the most versatile products of its type, NOPCO 2272-R not only speeds rewetting in sanforizing, but in addition offers superior wetting out, penetrating, dispersing and dye leveling properties.

NOPCO 2272-R is . . .
Especially adapted for vat dyeing because of its stability in strong alkaline solutions up to 4% caustic soda (8.56°Tw.)

ECONOMICAL because of its rapid wetting or rewetting at low concentrations and wide temperature ranges.

An outstanding product of its kind based on performance and cost.

For further information write NATIONAL OIL PRODUCTS COMPANY, HARRISON, N. J. — Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.

NOPCO EVOLVED THROUGH RESEARCH

YOUR INVENTORY IS YOUR COLLATERAL FOR BANK LOANS

FIELD WAREHOUSING

A sound American method of **COMMERCIAL FINANCING** *to meet the present day requirements of* **INDUSTRY**

COMMODITY INVENTORIES of raw materials, semi-finished or finished products remaining on the premises of your business establishment—CAN BE S-P-E-E-D-I-L-Y COLLATERALIZED so that you may conveniently obtain WORKING CAPITAL from your Bank or other lending agent over and above your present line of credit.

The St. Louis Terminal Field Warehousing Division's flexible and economical method of establishing actual warehousing operations on the premises of your Business Establishment will permit you to operate with complete freedom and independence.

•

WRITE NEAREST OFFICE for FREE ILLUSTRATED BOOKLET . . . No Obligation—Strictly Confidential

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Field Warehousing Division

ST. LOUIS TERMINAL WAREHOUSE CO.

SERVING INDUSTRY FOR TWENTY YEARS

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fine fibers protruding from the surface, they are not readily inflammable, or subject to rapid combustion, Dr. Bonnet pointed out. Then, inflammability may also be caused by the use of an inflammable finish applied to glaze or stiffen the material.

Cost of Clothing G.I. Up 22%. Clothing a soldier in the continental United States for his first year in the Army now costs the Quartermaster Corps $212, a 22% increase over the $173.70 figure in 1944, Brig. Gen. Roland Walsh, commanding officer of the Philadelphia Quartermaster Depot, revealed. This "composite soldier's" clothing costs $128.19 at the outset, but $83.82 is added for a year's maintenance. In theaters of war the yearly maintenance cost of clothing is $145.10.

QM May Reduce Clothing Sizes. The Quartermaster General's Office, after studying war experiences in the European theater, believes that all Army clothing sizes may be reduced to large, medium, and small. Experiments conducted at Camp Lee, Va., by 450 soldiers of the Quartermaster School Demonstration Battalion were aimed at slicing combat clothing sizes from 41 to 4. Although final conclusions will not be known until officials in Washington have had an opportunity to study test results, Lt. Oscar Karrel, of the Clothing & Equipage Section, Office of the Quartermaster General, sent to supervise the test, stated that the test was successful.

New Colorfastness Standards. Standard dyeings for classifying the fastness to light of textiles have just been issued by the American Association of Textile Chemists & Colorists. These standard dyeings, which are available in a set of seven fabric samples of different degrees of light fastness, were prepared by an entirely different method from that used for earlier standards. The standard dyeings are suitable for use in determining the fastness to light of all types of dyed or printed yarns and fabrics and in testing the fastness of dyestuffs for application to textiles. They are recommended particularly for testing colorfastness to light by the tentative standard method of the AATCC.

Naugahyde, a Plastic for Upholstery. A new line of plastic upholstery for civilian use which will provide designers and manufacturers with upholstery material that is both waterproof and flameproof, has been announced by United States Rubber Co. The plastic upholstery, known as Naugahyde, will be made in a wide range of light and bright, clear decorative colors, and even two-tone effects as well as in a variety of grains. It will not be affected by perspiration, salt water, alcohol, gasoline, oils, greases, and most acids and alkalis. It can be cleaned with soap and water.

Philadelphia Institute Seeks $2,000,000. The Philadelphia Textile Institute Foundation, 66 Leonard St., New York, a non-profit corporation, announces that the $2,000,000 fund it plans to raise for Philadelphia Textile Institute before the end of the year will cover the following estimated expenditures: $676,800 for new building, $437,500 for dormitory, $311,000 for new machinery and equipment, $500,000 for teaching staff (over a ten-year period), and $74,700 for building contingencies. Alban Eavenson, of Eavenson & Levering Co., Camden, N. J., is campaign chairman.

More Argentine Synthetics. The Argentine subsidiary of E. I. du Pont de Nemours & Co., of the U. S., and Imperial Chemical Industries, Ltd., of England, is planning to double its viscose rayon production and erect a plant for nylon production. The firm operates as the S. A. Productora de Rayon "Ducilo."

Jobber Owns 20% of Pacific Mills. Ely & Walker Dry Goods Co., St. Louis, was reported last month to have lately acquired 4,600 additional shares of Pacific Mills, bringing its total holdings of Pacific up to 73,100 shares out of 396,123 shares outstanding at the end of last year.

Wool Secretariat in New York. Sir Charles McCann, chairman of the International Wool Secretariat, is soon to visit New York for the purpose of establishing an American branch. He will make his headquarters with Earl Newsome, the Secretariat's public relations agent.

British Hosiers Visit U. S. British hosiery manufacturers have been visiting this country, inspecting plants of Textile Machine Works, Du Pont, etc., and of a number of leading hosiery manufacturers. After a turn through the South and Middle West, they were planning to leave from New York about the middle of July.

Freeze Melted Above 72 Needles. WPB has lifted the freeze on civilian

The case of the colorless cottons

"This mill's a madhouse!" cried the manager, as the Armour Soap Sleuth strolled in. "That finisher has spent all morning arguing with the bleacher and dyer, and we still don't know what's wrong!"

"Just look at these cottons!" he shouted. "Our ads say they're gaily colored, bright and sparkling. These certainly aren't—they're dull, drab and dingy! What's our trouble?"

The Sleuth smiled knowingly. "It's easy as A B C! There's nothing wrong with your cottons that a *good* soaping won't cure," he said. "*You need a soap like Armour's Flint Chips!*"

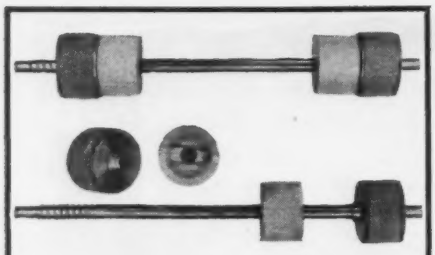
"You see, a good soaping with Flint removes excess dyestuffs, clears the whites, brightens and fixes the colors! Your cottons *always come out bright and clean* because Flint's rich, full-bodied suds penetrate quickly and rinse fast. When you use Flint in your final finishing, you can be sure that your dyed and printed goods will more than live up to your advertising!"

One of a Series of Adventures of the Armour Soap Sleuth

INDUSTRIAL SOAP DIVISION

Armour and Company

1355 W. 31st Street, Chicago 9, Illinois



SPACER-BOBBIN SPINDLE

Adaptable to long or short bobbins . . . spacers are self-locking and removable. Spindles made to your specifications so you can use two different length bobbins on the same spindle, on the same machine, without changing the spindle.

Wayne Manufacturing Co.
Honesdale, Pa.
Manufacturers of Textile Mill Supplies

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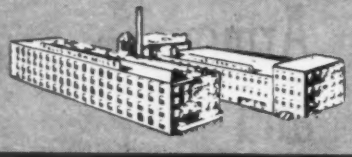
QUALITY YARNS

FINE WOOLEN & SPECIALTIES

ESTABLISHED 1904



Falls Yarn Mills
WOONSOCKET RHODE ISLAND

hosiery-knitting machines above 72 needles which were frozen for wool-sock production for the Armed Forces. Machines from 48 to 72 needles will be kept under government control through Dec. 31, 1945, according to the announcement.

QM Anniversary. On June 15, the Quartermaster Corps celebrated the 170th anniversary of its founding. Business as usual was the order of the day at both the Philadelphia and Jeffersonville Depots.

Asbestos Institute Formed. The Asbestos Textile Institute, with offices at 12 South 12th St., Philadelphia, Pa., was formed last month to render service to manufacturers, to the trade, and to users of asbestos textiles. The following companies, which represent a major portion of the asbestos textile production capacity in this country, have become members: Asbestos Textile Co., J. Franklin Burke & Co., Carolina Asbestos Co., Garlock Packing Co., Johns-Manville Corp., Keasbey & Mattison Co., Philadelphia Asbestos Co., Raybestos-Manhattan, Inc., Southern Asbestos Co., and Union Asbestos & Rubber Co. Officers elected are: C. H. Carlough of Carolina Asbestos Co., president; George Marshall, Jr., of Raybestos-Manhattan, Inc., vice president; William C. Scott of Keasbey-Mattison Co., treasurer; and Harris D. McKinney, to serve as institute manager and secretary.

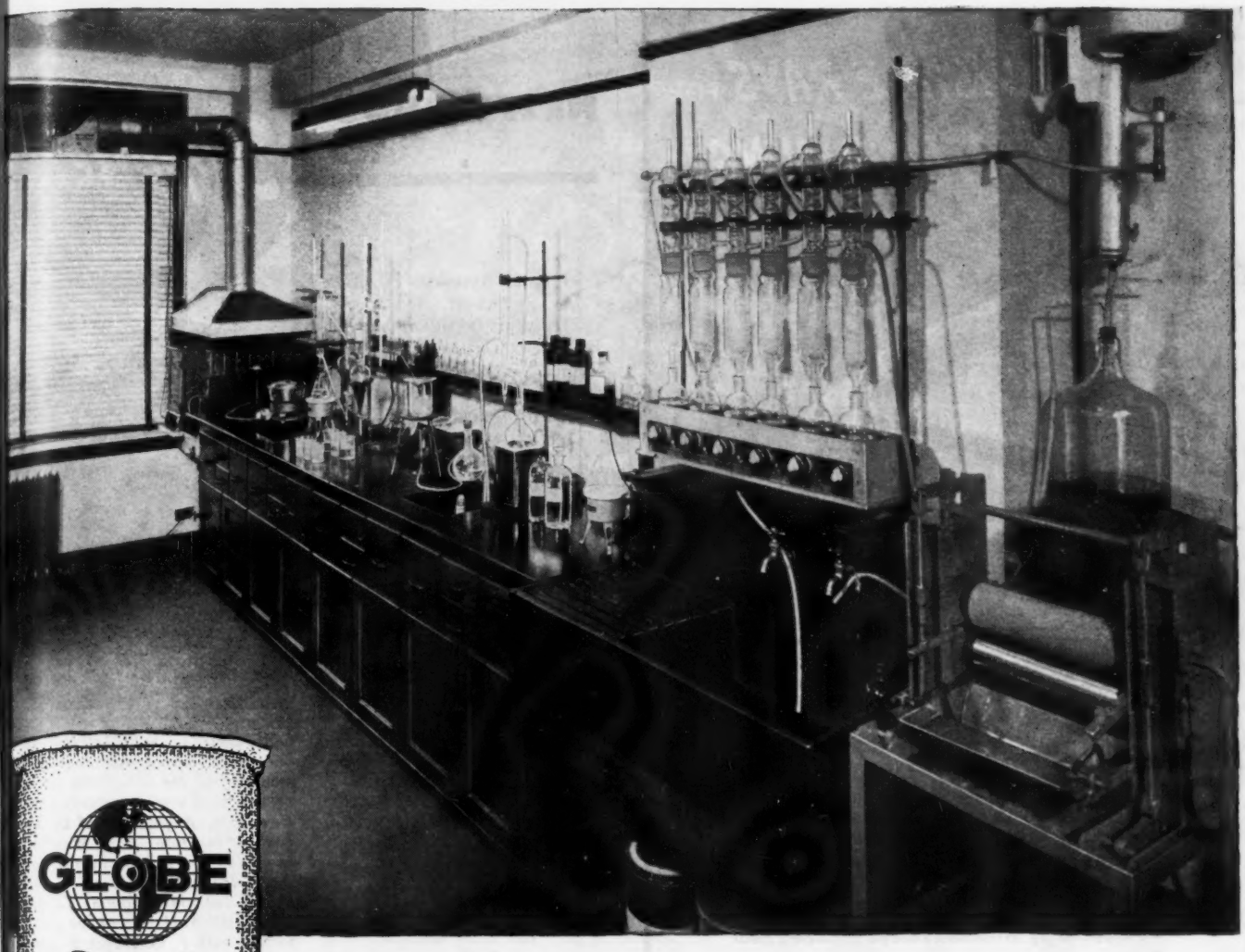
Research Laboratories Directory. An appeal to textile research laboratories to submit data on their facilities and operations is being made by the National Research Council, which has in preparation the eighth edition of its directory, *Industrial Research Laboratories in the United States*. A copy of the questionnaire may be obtained from the Council's office, 2101 Constitution Ave., Washington 25, D. C. No charge is made for inclusion of laboratory statements.

American Viscose Honors Employees. Eight employees of the American Viscose Corp., New York, recently were presented with the company's Salvage Award medal, the highest honor the company bestows upon any employee. Recipients of this year's awards, made in recognition of outstanding action or achievement, are W. Edward Dungan, Chester H. Doodwin, Carlton E. Holder, Mrs. Odrie P. Kidd, John W. Moody, Ross M. Pfalzgraff, Arthur R. Wachter, and Leonard T. Weaver.

INDUSTRIAL RAYON CORP dramatized the transition of its Cleveland plant from underwear fabrication to tire cord in this window display. With a slogan "Get your postwar job now where women are critically needed", the display included battle action scenes featuring tires and several views of production at the plant.

Plants Receive "E" Awards. Among plants which have received Army-Navy "E" awards recently are the following: Cheney Bros., Manchester, Conn., fifth award; Munsingwear, Inc., fifth award; Clearbrook Woolen Co., Clearbrook, Va.; Dayton Rubber Mfg. Co., Thorobred Textile Division, Waynesville, N. C.; Taft-Peirce Mfg. Co., Woonsocket, R. I., fifth award; Equinox Mill, Anderson, S. C., fifth award; Marshall Field & Co., Fieldale, Va., third award; Martin Dyeing & Finishing Co., Bridgeton, N. J., fifth award; Nashua Mfg. Co., Nashua, N. H., third award; U. S. Finishing Co., Norwich, Conn., third award; Firestone Textile Plant, Bennettsville, S. C.; Ackshand Knitting Co., Ballston Spa, N. Y.; Benjamin Foster Co., Philadelphia, Pa.; Acme Cotton Products Co., Inc., East Killingly, Conn.; Springdale Finishing Co., Inc., Canton, Mass.; Springdale Finishing South, Inc., Whitney, S. C.; Lion Knitting Mills, Cleveland, Ohio, second award; and Tusarora Cotton Mill, Mt. Pleasant, N. C.

Arms Dedicates Honor Roll. Arms Textile Mfg. Co., Manchester, N. H., has dedicated an honor roll for its 180 employes in the service, including five who have given their lives.



Looking Ahead to Better Textiles

OUR experienced technicians, using the complete facilities of our textile laboratory, at Greenville, S. C., have successfully solved many problems in the use of starch. We cordially invite you to consult them if you have any starch problems. Their services are at your command.

CORN PRODUCTS SALES COMPANY

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INVISIBLE RAYS FOR FASTER DRYING

Over 80% of the energy radiating from Wabash-Birdseye Infra-Red Heat Lamps is invisible, clear, deep-penetrating, drying rays of Infra-Red radiant heat.

Sanforizing and other finishing processes that involve drying of fabrics can now be done better and faster through the scientific application of "Invisible Light"—Infra-Red radiant heat as supplied by Wabash-Birdseye Infra-Red Heat Lamps.

Textile engineers report that Wabash often saves from 20% to 100% in drying time. Results are more uniform, maintenance is easy and economical.

WABASH-BIRDSEYE INFRA-RED HEAT LAMPS

are standard for most Infra-Red tunnels, ovens, and other production line installations. In adapting your equipment to achieve the really dramatic results possible with Infra-Red, remember that Infra-Red heating is a science; and, *for maximum efficiency, Wabash-Birdseye Lamps should be used with scientifically engineered equipment.* We will gladly furnish names of manufacturers of such equipment.

Wabash Appliance Corporation

345 Carroll Street Brooklyn 31, N. Y.

WABASH-BIRDSEYE

First in INFRA-RED

NEWS ABOUT Suppliers

H & B American Machine Co., Pawtuckett, R. I., has elected as its president Melville F. Weston, a director and formerly vice-president, to succeed Edward L. Martin, who retired on June 1 after 45 years of service with the company. Mr. Martin will remain in active touch with the affairs of the company and with its customers. Mr. Weston has served as vice-president since May 20, 1943. He is a member of the law firm of Powers & Hall, Boston. Elmer J. McVey has been elected vice president and executive assistant to the president. He has been with the company for 23 years, serving in both production and sales divisions. Charles E. Burgess has been appointed general manufacturing manager. He joined the organization in January of this year and has served as general superintendent. J. Carlile Martin continues as southern agent of the company in charge of both the Atlantic and Charlotte divisions.

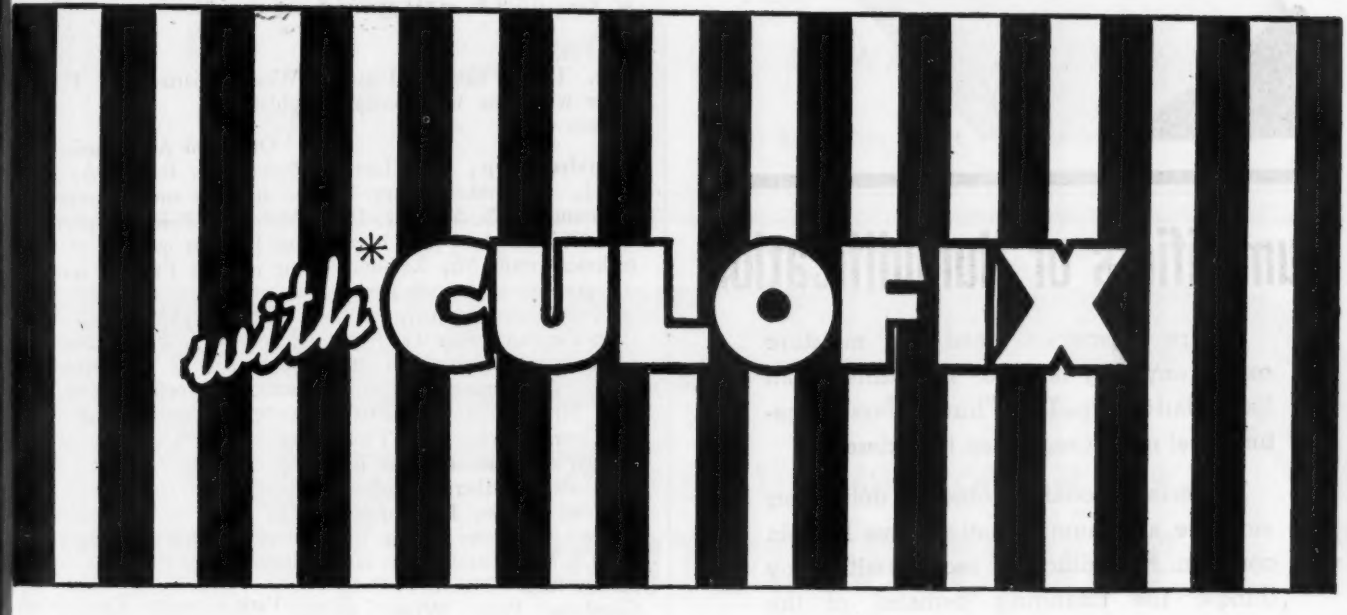
S. W. QUISENBERRY, formerly Southeastern manager of maintenance sales for E. I. du Pont de Nemours & Co., with headquarters at Atlanta, Ga., who has been transferred to the home office at Wilmington, Del., to supervise the planning and promotion of maintenance and upkeep sales nationally. He is being succeeded at Atlanta by W. B. Tatum, formerly district manager of trade sales at Dallas, Texas. Mr. Quisenberry has been associated with sales to the textile industry in the Southeast for the last 16 years.

CLIFFORD T. WORTHEN who has been appointed technical manager of the Charlotte office of Sandoz Chemical Works, Inc., New York. A graduate of Lowell Textile Institute, Mr. Worthen spent ten years as a chemist and superintendent of bleaching and dyeing at McLoughlin Textile Corp., Utica, N. Y. For ten years he was with F. C. Huyck & Sons, Albany, N. Y. as superintendent of dyeing, and later served as chemist and technical director of Beaunit Mills, New York. A. T. Hanes is the general manager of the Sandoz Charlotte office.

A. B. Carter, Inc., Gastonia, N. C., has appointed J. McD. McLeod to its engineering and traveler department as textile engineer and supervisor of sales for South Carolina and part of Georgia, with headquarters at Columbia, S. C. He was former assistant superintendent of Burlington Mills Corp., Ranlo Plant, Ranlo, N. C.

Textile Specialty Co., Greensboro, N. C., has appointed John C. Turner, of Atlanta, Ga., to handle the sales of its Sidebotham patented spinning and twister tape. He will cover Georgia, Alabama, and part of Tennessee. This is in addition to his present connection with W. D. Dodenhoff Co., of Greenville, S. C. Mr. Turner also handles exclusively the W-Improved spinning saddle.

Jacques Wolf & Co., Passaic, N. J., has transferred Geo. W. Searell from Knox-



No matter where the trouble occurs — whether while the fabric is batched up after dyeing, or in the finishing bath—Culofix will improve water fastness.

Culofix used as an after treatment following the dyeing operation is especially valuable for preserving crisp detail and contrast in prints of rayons, cottons and mixtures.

It has been used with complete success for hosiery where mixed fibres are present.

Culofix not only improves water fastness of direct colors but also imparts a very desirable soft, full finish thus eliminating an extra finishing operation.

If fastness to water is essential to your direct color dyeings, write for complete data. Our technical staff is at your service without obligation.

*Reg. U.S. Pat. Off.

ARKANSAS CO., INC.

Manufacturers of Industrial Chemicals For Over 40 Years.

NEWARK **NEW JERSEY**

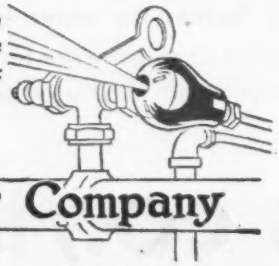
Humidifiers or Humidification

Where desperate need for moisture exists, anything labeled "humidifier" can hardly fail to help. Thus "humidifiers" sometimes get more credit than they deserve.

Mysterious looking objects delivering moisture and humidification have little in common. Humidification reckons with many things; the changing demand of the seasons, of each day, or hour, or minute. It includes peculiarities of plant, processes and product. Finally, it aims at more and better production.

Yes, "humidifiers" may help. Genuine humidification produces astounding results.

No piping changes. The self-cleaning Turbomatic interchangeable with earlier and other models.



Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

KAUMAGRAPH COMPANY, Wilmington, Del., is one of the first concerns to win the new Navy Commendation Award for Printers. Outstanding achievement in textile-identification work and in the production of fabric maps formed much of the basis for the award. The above photograph shows Trowbridge Marston, president of Kaumagraph, accepting the certificate of commendation from Comdr. Frank M. Knox, U.S.N.R., at the ceremonies on June 22.

ville, Tenn., to the Passaic office where he will continue in sales work.

Aridye Corp., Fair Lawn, N. J., has added James R. Redmond, S. Y. Stribling, III, and William A. Green to its technical staff. Mr. Redmond is a graduate of Lowell Textile Institute, was formerly with Ciba Co., and since 1939 has been a technician with the Army Quartermaster Corps. Mr. Stribling is a graduate of Georgia School of Technology, and since 1934 he has been with Southern Bleachery & Print Works, Inc., in the research laboratory and in the plant. Mr. Green was employed from 1930 to 1943 by Glenlyon Print Works of Sayles Finishing Plants, Inc., in both laboratory and the plant. For the last two years he has been with Hart Products Corp.

John A. McPherson Co., Greenville, S. C. has moved its engineering offices from the Peoples National Bank Building to 408 South Main St., where larger space is available.

Hermes Machine Co., Hawthorne, N. J., has appointed Francis H. Love, 145 East 52nd St., New York, to handle its export business.

Harry H. Haff & Co., Philadelphia, Pa., has been formed to sell yarns, supplies and service to the textile industry by Harry H. Haff, who lately resigned as secretary of Boger & Crawford, Philadelphia. The Haff headquarters are at 1616 West Indiana Ave., Philadelphia.

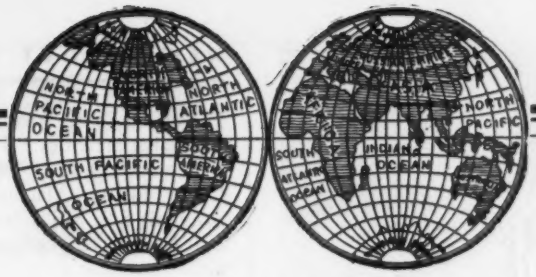
Onyx Oil & Chemical Co., Providence, R. I., has added to its sales and technical staff Melvin P. Rainville, previously for 15 years overseer of finishing in New England mills.

Grinnell Co., Inc., Providence, R. I., has resumed production of its Thermolier unit heater with copper tubes. This heater has an internal cooling leg in which condensate cooling is so efficient that a simple thermostatic trap can be used. The pitch of each tube provides complete draining of condensate.

Parks-Cramer Co., Fitchburg, Mass.—William Beach Hodge, vice president of this company, received the honorary degree of Doctor of Laws at the recent commencement exercises of Syracuse University, Syracuse, where he was graduated in 1895. The citation noted Mr. Hodge's successful research in X-ray apparatus, his contributions to the field of textile air-conditioning, and the modern-pioneer award made to him in 1940 by the National Association of Manufacturers.

Riggs & Lombard, Inc., Lowell, Mass., closed down for the week of July 1 to give all employees (shop as well as office) a vacation with full pay.

George M. Porges Associates, New York, has added H. M. Peters to its staff to assist Mr.



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	per sample
Waterproof Test	$2.50
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Flammability	2.50
Crackiness Test—0°F.—24 hours	5.00
Tackiness Test—160°F.—4 hours	2.00
Breaking Load	2.00
Resistance to Acids	5.00
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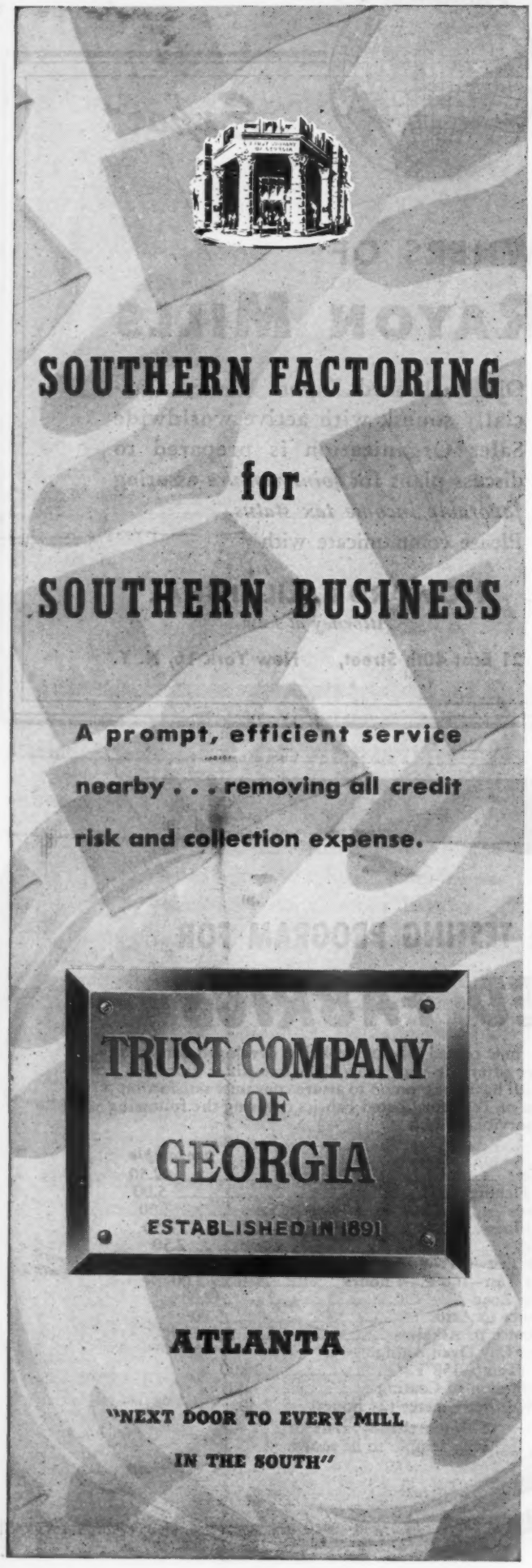
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"NEXT DOOR TO EVERY MILL IN THE SOUTH"

Porges in both management and sales activities. The firm represents Dixie Mercerizing Co,. Fidelity Machine Co., Sauquoit Silk Mills, and Waddill Printing & Lithographing Co.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has prepared a reconversion inventory kit comprising a set of fact sheets to enable the user to determine the condition of equipment for peace time duty. The kits cover centrifugal pumps, V-belt drives, and electric motors.

Carrier Corp., Syracuse, N. Y., has moved its Atlantic district office to 300 Ivy St., N. E., Atlanta 3, Ga. C. V. Fenn is district manager.

Hydraxtor Co., Chicago, through its president Harry Koplin, has sold the company's "Zephyr" line of centrifugal extractors to the Prosperity Co. All parts and servicing will henceforth be taken care of at Prosperity's Syracuse, N. Y., plant. Mr. Koplin's company will now devote its resources with planned expansion to the production of the Hydraxtor, in addition to line of Zephyr commercial laundry machinery.

Farrel-Birmingham Co., Inc., appointed Robert M. Honegger as general manager of the company's gear plant at Buffalo, N. Y. He succeeds Lester D. Chirgwin, who has been elected vice president in charge of manufacturing in all four Farrel-Birmingham plants located at Ansonia, Derby and Stonington, Conn., and Buffalo, N. Y.

Tennessee Eastman Corp., Kingsport, Tenn., will distribute its acetate rayon dyestuffs in Canada through Canadian Kodak Co., Ltd., Toronto 9, Ontario, effective Aug. 1. Formerly shipped from the plant at Kingsport, the dyestuffs will be carried in stock by the Canadian concern in order to speed up shipments to the Canadian trade. Sales at Canadian Kodak will be under the supervision of L. J. Schoonmaker.

E. I. du Pont de Nemours & Co., Wilmington, Del.—For reasons of health, Dr. Charles M. A. Stine retired on June 30 as a member of Du Pont's executive committee and as the company's advisor on research and development. He will retain his positions of vice president and director. He will be succeeded on the executive committee by Roger Williams, assistant general manager of the Explosives Department, who has been elected a vice president and member of the board of directors and will assume the duties of advisor on research and development. Du Pont has appointed D. J. Sullivan as assistant plant manager of the Fairfield, Conn., plant

FRED MUELLER, who has been elected vice president of Corn Products Refining Co., New York. He joined the company in 1902. He was made vice president and director of Corn Products Sales Co. in 1934 and general sales manager of Corn Products Refining Co. in 1944.

G. P. VINCENT, manager of the sales development and technical service department of The Mathieson Alkali Works, New York, who has been appointed to the newly created position of technical director. In addition to his former duties, he will direct research and technical development and advise on technical matters concerning plant operation. In these latter capacities, he succeeds R. E. Gage, who was director of research and development for Mathieson for 14 years and has now been appointed technical advisor of the company.

2453 WOMEN
(Industrially Trained)
Ready to Man YOUR PLANT!

Ample skilled labor — both men AND women — will soon be available for new textile industries coming to Panama City. The 2453 figure on female help was determined recently by survey.

1261 individual homes (brick and frame single-family dwellings) have been built since 1942 and will be ready to house your help.

Health and happiness for your working people are assured by the facilities created by our active City Recreation Department. Panama City is a "homey" city and we'll make your industry feel at home here, too. The average temperature over a 26-year period here is 68.2 degrees.

As evidence of our progressive status, Panama City bonds are selling at a market price of 109½.

Industrial sites of ample size, located next to railroad facilities, are owned by the municipality and will be made available to proper authorities. Let us send you detailed information on what Panama City has to offer your industry as a permanent location. WRITE or TELEGRAPH.

J. M. RAINEY, *Manager.*

Industrial Bureau
PANAMA CITY, FLORIDA
P. O. BOX 311

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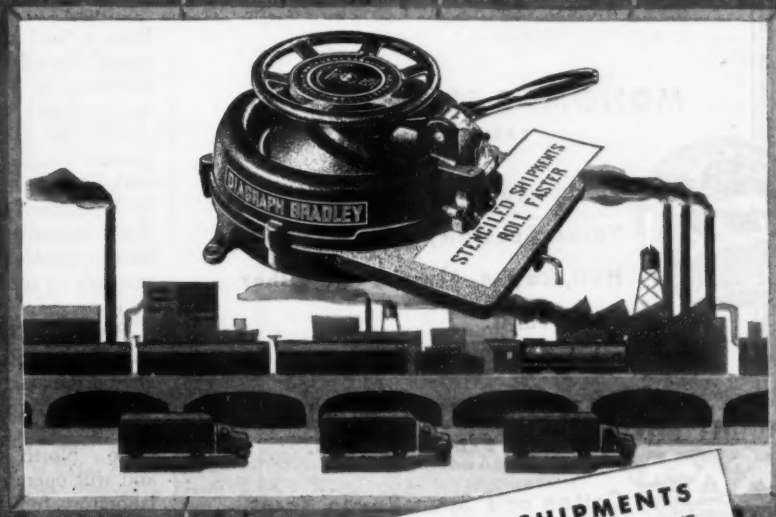

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During 92 years The William Whitman Company, Inc., and its predecessors have served the interests of important mills and users of yarns, seeking to establish for its customers a steady flow of dependable, quality yarns.

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French-spun Worsted and Merino Yarns. Specialty Yarns—Rabbits Hair, Rayon, Acetate and Other Blend Yarns.

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Cotton and Spun Rayon Yarns, Merino Blends, Specialty Rayon and Wool Mixtures.

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of the Fabrics Division, and transferred Dr. G. T. Vaala from the Chemical Department Experimental Station at Wilmington to the same plant as assistant director of the laboratory. Albert R. Tucker has been appointed to the newly-created position of West Coast manager of Du Pont's Electrochemicals Department. The El Monte plant and sales office at El Monte, Calif., and the district sales office at San Francisco, will be consolidated under Mr. Tucker, who has been Philadelphia district manager for the department since 1936.

The Foxboro Co., Foxboro, Mass., has reopened its branch office at Charlotte, N. C., closed in October, 1942, because of war conditions. Samuel C. Alexander, 2012 East 7th Street, is the resident engineer in charge. In his 23 years with Aberfoyle Mfg. Co., he served as yarn technician and field service representative in North and South Carolina. Foxboro has added Harry D. Wagner to its staff of engineers serving the Cleveland area, with headquarters at 1501 Euclid Ave., Cleveland 15.

Borne Scrymser Co., Elizabeth, N. J.—Hughes L. Siever, Southern sales manager, has been retired on pension. He joined the sales force of Borne Scrymser in June, 1921, and was assigned to Southern territory. In 1931 he was appointed Southern sales manager with headquarters in Charlotte, N. C. Russell C. Young, with the company since 1926, has been appointed Southern sales manager to succeed Mr. Siever.

Bryant Chemical Corp., Providence, R. I., has purchased the assets of the Chemical & Mill Supply Divisions of Textile Service & Chemical Corp., North Quincy, Mass., and will operate the plant and laboratory for the manufacture of textile chemical specialties sold under the trademark Brytex Products. This plant was formerly owned by Bosson & Lane, Inc., prior to its purchase by Textile Service & Chemical Corp. Bryant Chemical Corp. will also maintain a mill-supply division headed by Allen Q. Christie.

Canadian Aniline & Extract Co., Ltd., Hamilton, Ont., has appointed Dr. Stefan Holuij to its technical staff in charge of

DR. DAVID M. GANS has been appointed technical director by Quaker Chemical Products Corp., Conshohocken, Pa. He will supervise Quaker's research, service, and control laboratories. He was with Interchemical Corp. from 1935 until he joined Quaker on May 1 of this year. He is a specialist in colloid chemistry and its allied subjects.

all new plant design, and in charge of production and control.

National Starch Products, Inc., New York, have elected to their directorate Joseph J. Daniels, a member of the firm of Baker & Daniels, Indianapolis attorneys. Herbert C. Piel, who has full charge of National's operations at their Indianapolis plant, was advanced to assistant vice president. National Starch Products has learned that its Dutch plant, Nationale Zetmeelindustrie N. V., of Veendam, Holland, was liberated April 14 by Polish troops of the Canadian First Army. The plant is reported to be undamaged despite its proximity to Groningen where heavy fighting occurred; and all of its personnel are said to be safe.

Monsanto Chemical Co., St. Louis, Mo., has appointed Dr. Earl W. Gluesenkamp and Dr. James H. Lum as assistant directors of research at its Central Research Laboratories, Dayton, Ohio. J. P. Skehan has been promoted to assistant sales manager for sheet and Vuepak materials at Monsanto's Plastics Division, with headquarters at Springfield, Mass.

C. H. Reumann, M. E., has resigned as Southern representative for the National Drying Machinery Co., of Philadelphia, to establish an office at 7512 Brookfield Road, Melrose Park, Philadelphia 26, Pa., as consultant on drying, dyeing, and finishing problems.

. . . is *something* that cannot be destroyed by whims of fashion. *DuraBeau* finishes *do* impart *that something* to milady's hosiery by transforming the fibres into a dull, satiny smoothness . . . combining allure and desired leg art, with miles more wear.

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Reg. U. S. A. and Canada FINISHES

ARE TAILORED TO FIT THE FABRIC

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More and more mills are using the Oakite Steam-Detergent Method of removing lint, dirt, oil and other deposits from knitting machines.

Recommended Oakite cleaning materials are applied with the Oakite Solution-Lifting Steam Gun. Costly manual labor is eliminated . . . hard-to-reach deposits are easily removed . . . a fast, thorough cleaning job is yours at surprisingly low cost! This method is equally effective for removing dye and scum deposits from vats or kettles; for cleaning slasher drums and other equipment. Write us for FREE details!

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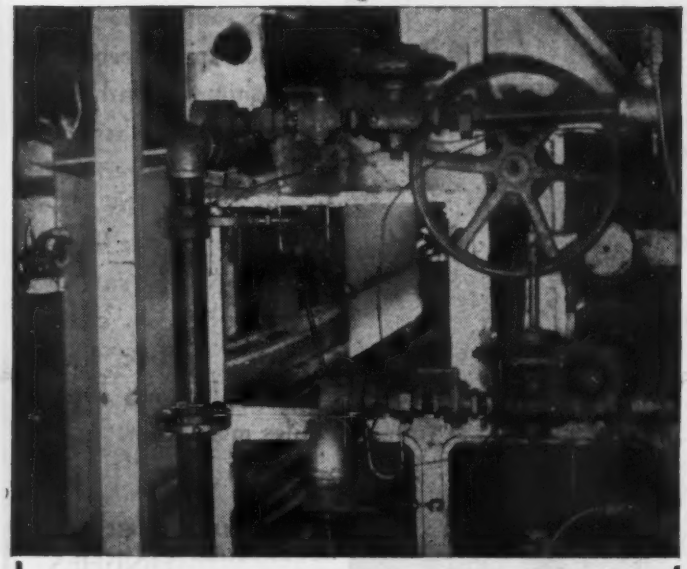

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AMYSOL-DS—A Powerful Desizing Agent

With 0.1% to 0.5%, depending on the weight and construction of the material, you can materially speed up your desizing process. Simple, safe and easy to use with all natural mixed or synthetic fibres.

AMYSOL-WS—For Hydrolizing Starch Solutions

A small percentage of Amysol-WS in your starch solutions will rapidly penetrate the size into the yarn and control dusting, reduce end breakage, facilitate and speed up your manufacturing process. Combines readily with virtually all sizing additives. Easy and simple to use and truly a compound of tomorrow available today.

We invite you to make a trial of the new and perfected AMYSOLS.

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NEWS ABOUT *Mills*

COTTON MILL NEWS

Amber Textile Mills, Inc., recently organized, have acquired Woodstock Spinning Corp., Anniston, Ala., and will operate in future under new name, continuing present line of output. Bernard West and H. S. McIntyre, Charlotte, N. C., head the company.

Continental Mills, Inc., Lewiston, Me.—Entire capital stock of this company is being acquired by Andrew N. Winslow, Jr., Boston, Mass., trustee of a trust created for Massachusetts Institute of Technology, Cambridge, Mass., which will hold controlling interest in future.

Dudley Shoals Cotton Mill, Granite Falls, N. C., has had controlling stock sold to Alex A. Shuford, of Hickory, N. C., and Julius W. Abernethy, of Newton, N. C.

Hall-Kale Mfg. Co., Troutman, N. C., has sold its cotton mill to Hampton Mills, Inc., a North Carolina corporation, for $280,000.

Howard Arthur Mills, Fall River, Mass., have been purchased by Millville Mfg. Co., Millville, N. J. The plant manufactures combed and carded sateen and has 48,000 spindles and 1,400 looms. It employs about 400 operatives.

Mansure Textiles, Inc., Bluefield, Va., now operating on a small scale, plans employment expension to 75 persons as soon as necessary machinery can be purchased. It is a branch of the E. L. Mansure Co., with plants in Chicago and Philadelphia, and is engaged in the manufacture of upholstery trimmings, fringes, and webbing.

Montreal Cottons, Ltd., Valleyfield, Que., are not planning the plant addition reported in this column last month.

Naumkeag Steam Cotton Co., Salem, Mass., has taken out permit for remodeling a four-story warehouse for cafeteria and recreation building for employees. An offer has been made by Royal Little, trustee, to purchase stock of this company at $135 a share.

Odell Mfg. Co., Pittsboro, N. C., has let contract to Ralph E. Connell Co., Raleigh, N. C., for a one-story addition to its mill at Bynum, N. C., reported to cost over $35,000, with equipment. H. V. Biberstein, Charlotte, N. C., is engineer.

Pacific Mills, Hampton Division, Columbia, S. C., announce plans for postwar activities including special programs for wide sheeting and towel material, and expansion of plant equipment. Air-conditioning systems have been installed in two units and an order placed for a third.

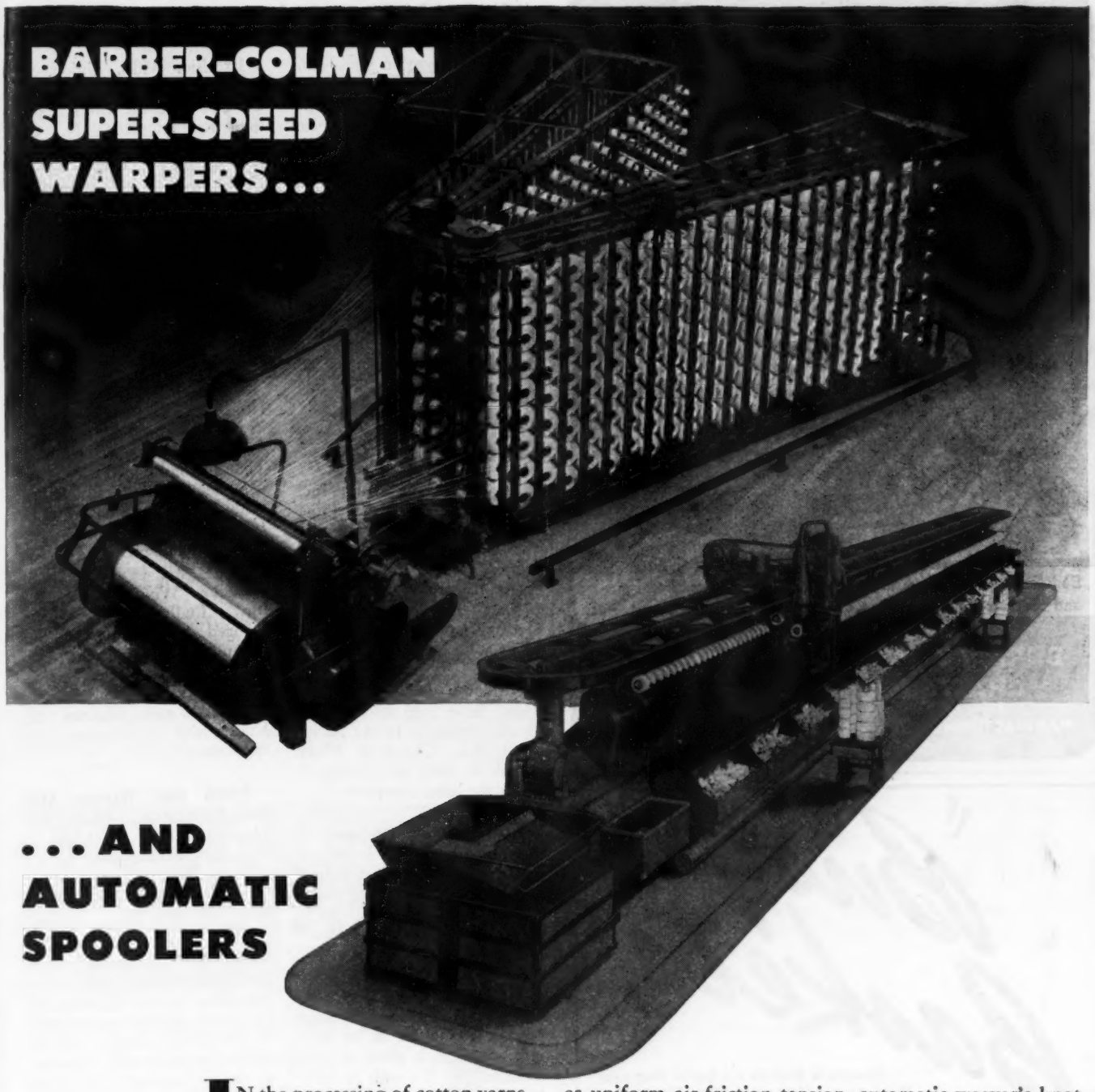
Rolled Thread Products Co., Providence, R. I., recently chartered with capital of 500 shares, plans operation of a cotton thread mill. The company is represented by Christopher J. Brennan, Providence.

Royal Cotton Mill Co., Wake Forest, N. C.—Controlling interest in this company has been purchased by Willis Smith, Raleigh, N. C., attorney, and B. E. Jordan, manager, Sellers Mfg. Co., Saxapahaw, N. C., who will operate it in future, continuing present line of production.

Sedgefield Mills, Greensboro, N. C., have been granted a North Carolina charter to engage in making textile goods, under an authorized capital stock of $100,000, with part of the stock subscribed by Flora O. Stern, Sidney J. Stern, and William Stern, all of Greensboro.

Victory Mills, Inc., Salisbury, N. C., recently organized with capital of $200,000, have

BARBER-COLMAN SUPER-SPEED WARPERS...



...AND AUTOMATIC SPOOLERS

IN the processing of cotton yarns, spun synthetics, and the like, no spooler or warper can *add* anything to the quality of the yarn—but, unless the machines are designed to handle the yarn to best advantage, much *might* be taken away. Barber-Colman equipment is designed to maintain the original quality and elasticity of the yarn as it comes from the spinning room, and at the same time provide a high-speed, economical method of transferring the yarn from bobbins onto beams ready for the slashers and the weave room. Many design features of Barber-Colman machines—such as uniform air-friction tension, automatic weaver's knotters, the cheese type of package, effective yarn cleaners, travelling creel elements, efficient arrangements for the operators, and many others—contribute to the successful achievement of this desired result. End results confirm the achievement because weave room records show that beams from Barber-Colman Spoolers and Warpers weave better, produce more uniform goods with less seconds, and cause fewer loom stops. Thus Barber-Colman equipment has proved essential in the economical production of quality goods.

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Burk-Schier Wet Processing Agents are made under careful plant and laboratory control. Technical service men always available.

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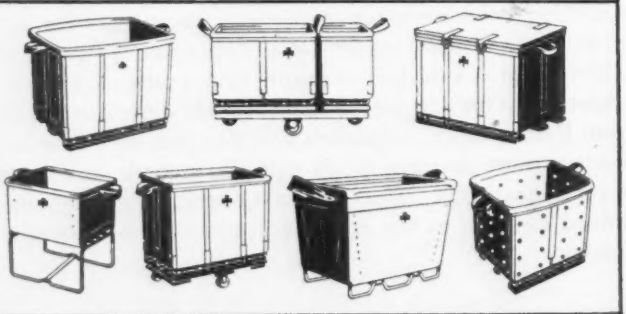
"Busy Baskets"

Shamrock Baskets are busier than ever these days. Their rugged construction is a source of satisfaction to users everywhere.



Shamrocks
MEESE, INC., Madison, Ind.

work under way on remodeling and equipping a building acquired at local Rowan County Fairgrounds for a cotton yarn mill. About 5,000 spindles and accessories will be installed with completion scheduled for early fall.

Zephyr Looms & Textiles, Ltd., Guelph, Ont., recently awarded the contract for the construction of its new branch spinning plant near the C. N. R. station, Oriston, Que. The new plant, one story 100x270 ft., will cost over $100,000.

WOOL MILL NEWS

Arctic Woolen Mills, Inc., has been incorporated in Providence, R. I., to deal in woolen and worsted goods and other fabrics, with capital of 600 shares. Incorporators are Claire Curley, Providence; Barbara Godfrey, Cranston; and Paul H. Hodge, East Providence.

Arlington Mills, Lawrence, Mass., have been sold (as previously reported) to the Albert Realty Co., Cleveland, Ohio. Albert A. List, of Cleveland, heads the latter company.

Atlantic Mills Division, A. D. Juilliard Co., Providence, R. I., has taken out a permit for improvements in the boiler house. Contract has been let to O. D. Purington Co., Providence.

Bigelow-Sanford Carpet Co., Thompsonville, Conn., plans postwar expansion at its local mill and branch plant at Amsterdam, N. Y., with installation of equipment and facilities to give employment to about 3,000 additional persons at both mills. The company also is conducting a survey of Southern states for a mill site for manufacture of punch-loom rugs.

Dionne Spinning Mills Co., St. George de Beauce, Que., has awarded contract for construction of two large tenament buildings to house its increased staff of workers. Estimated cost of each house is $35,000.

Elmvale Worsted Co., Pittsfield, Mass., has awarded contract for improvements and repairs to cost about $10,000. A. L. Phelps, Springfield, has the contract.

Excelsior Mills, Union, S. C., plans to open a plant in the Old Cleghorn Mills Building, Rutherfordton, N. C., soon. The company will manufacture women's dress goods and suitings in peace time and quartermaster supplies at present.

Golden Fleece Woolen Mills, Ltd., Magrath, Ala., plan a one-story addition, reported to cost $50,000, with equipment.

Livingston Worsted Mills, Holyoke, Mass., has received WPB approval for a modern dyehouse by its main factory. The air-conditioned dyehouse will cost $25,000, and will be ready for production by September, according to the company's present plans.

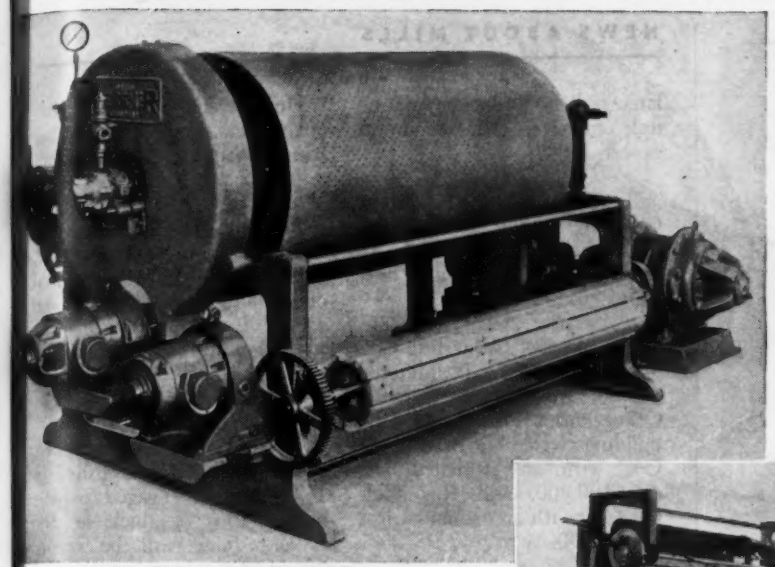
Ludlow Woolen Mills Co., Inc., Ludlow, Vt., have changed their name to the Mountain Woolen Mills, Inc. Same officers will remain, namely, C. A. Meister, Jr., president, and Maurice K. Kraft, who is secretary and treasurer.

North Star Woolen Mill Co., Minneapolis, Minn., has let contract to C. F. Haglin & Sons, Inc., Minneapolis, for extensions and improvements in one-story warehouse to cost about $30,000.

San Antonio, Texas — A newly formed wool and mohair committee of the Chamber of Commerce has announced that at least three concerns are interested in the postwar location of wool manufacturing plants in San Antonio.

St. Marys Woolen Mfg. Co., St. Marys, Ohio, plans two-story addition, about 75x 110 ft., and will let contract soon. Lyman Strong, Lima, Ohio, is architect.

Seneca Weavers, Ltd., Toronto Ont., recently secured a plant at Brampton, Ont., where it will install about 35 looms for manufacture of novelty type goods of wool, worsted, spun rayons, acetate and viscose mixtures, etc., President and general manager of the new company is George Riley, former sales manager of Fine Silks, Ltd., Midland, Ont. Nicholas Streisinger, a native of Czechoslovakia in charge of fabric design for a



hown to receive cloth on the roll and deliver on the roll.

FIVE MAJOR FEATURES OF THE NEW GESSNER SEMI-DECATING MACHINE

Once more Gessner has successfully developed outstanding cloth finishing improvements — this time in the process of open steaming or semi-decating.

1. Automatic tension controls for the decating apron, which prevent apron slap and looseness even at high operating speeds. These controls lengthen greatly the life of the apron.

2. Mechanisms which control the firmness of the decating roll without any added tension on the apron itself.

3. Elimination of all clutches, with individual motors to drive each cylinder.

4. Optional front platform with guides to load folded cloth from truck onto the machine.

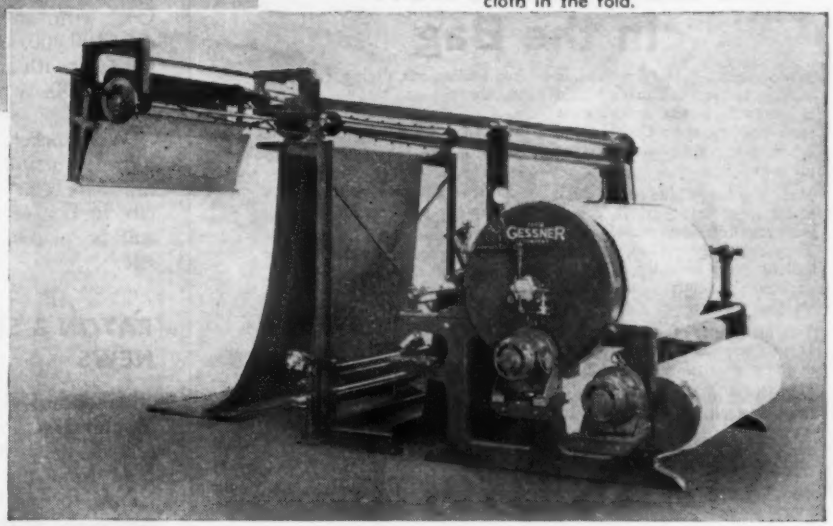
5. Optional self threading folder to unload cloth in folds, back onto the truck.

DAVID GESSNER CO.

IMPROVED CLOTH FINISHING MACHINERY

WORCESTER, MASS.

Shown to receive cloth from the fold and to deliver the cloth in the fold.



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Earn a Manufacturing Profit By Using the Best Machinery and Supplies

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GARNETT WIRE
LEATHER RUB APRONS
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THE ACCEPTED STANDARD

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It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

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Fire Protection– in the Bag

During combat, every precaution is taken to prevent damage within the crews' quarters. Sailors must stow bedding, spare clothing and other gear in fire-proof cotton sea bags.

Made of a heavy blue cotton duck cloth, these sea bags are coated with a fire-retardent synthetic resin. They're tightly packed, jammed full of every necessity of today's greatest travelers . . . safe from weather and fire.

The many uses of cotton by our Navy alone has made cotton one of the most vital of war materials.

In the Wet End of Textile Finishing, Butterworth Machines are working day and night—bleaching, boiling-out, drying, calendering, dyeing.

Butterworth Engineers offer their cooperation to mills seeking to increase productive capacity . . . to repair or replace obsolete equipment . . to develop new machines . . . to improve plant layout.

All our facilities not required for Ordnance production are available to help solve finishing problems, and aid in your post-war plans. Write for folder "Announcing a Policy on Orders Taken Now for Post-War Delivery."

H. W. BUTTERWORTH & SONS CO.
Serving the Textile Industry since 1820
Main Office and Works, Philadelphia 25, Pa.
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Determine Moisture Content Within a FEW MINUTES

ACCURATE DEPENDABLE

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For testing raw stock, cotton, wool, silk, rayon, yard goods, etc.

The *Moisture Teller* is an inexpensive moisture tester. It assures savings in processing time, reduces rejections and improves product quality. Successfully used by many industries.

CONTROL EQUIPMENT — SAVES TIME

Harry W. Dietert Co.
9330 ROSELAWN . . . DETROIT 4, MICH.

large mill in Budapest, will be mill manager and technical expert.

Textile Weavers, Ltd., Grandmere, Que., have begun an addition to cost approximately $11,000. It will be one-story, 30x192 ft.

Woonsocket Garnetting Co., Woonsocket, R. I., suffered $6,000 fire damage recently. Other firms occupying the building were U. S. Rubber Co., with an estimated loss of $100,000, and Ray Cotton Co., with an estimated loss of $90,000.

Woonsocket, R. I.—Former property of Globe Mill, Front St., has been deeded to the city in lieu of taxes due, and will be placed on market for sale.

RAYON & SILK MILL NEWS

American Viscose Corp., Wilmington, Del., has arranged for an increase in appropriations from the Defense Plant Corp. to provide additional equipment at the Front Royal, Va., plant at a cost of $1,500,000. This results in an overall commitment of approximately $8,000,000 to American Viscose.

Belding Textile Mills, Inc., Belding, Mich., have plans for new one-story mill at Redland, Calif., 80x120 ft., to cost over $75,000, with equipment. Arthur Froelich, Beverly Hills, Calif., is architect. Erection contract will be let soon.

Burlington Mills Corp., Greensboro, N. C., has four of its foreign manufacturing units (first reported in these columns last November and December) now in operation and two others under construction. In Cuba it is operating Victoria Textiles, Inc., at Marianao on rayon weaving, dyeing, and finishing, and Havana Hosiery Corp., at Havana on full-fashioned hosiery. In Australia, blankets and uniform cloths are being made by Burlington Mills, Australia, Ltd., at Sydney, and other military goods at a plant in Rutherford. Both will turn to civilian goods after the war. In Colombia, a plant is being built at Medellin, and in Mexico a plant is under construction at Cuernavaca, 40 miles from Mexico City.

Holyoke Fabrics, Inc., Holyoke, Mass., have taken out a permit to build a one-story addition for office service.

Pleasant Novelty Co., Inc., is a new firm in Fall River, Mass. It has a reported capital of 1,000 shares of stock, no par value, and plans to operate a local mill for the manufacture of a line of cotton and rayon specialties.

Raycord, Inc., Spartanburg, S. C., which was established in 1944, and is engaged in the manufacture of duck at the present time, will be reconverted to manufacture tire cord after the war.

Steuben Silk Mills, Andover, N. Y., have purchased the building now occupied, under lease with Andover Civic & Industrial Assn.

KNITTING MILL NEWS

Acme Underwear, Ltd., St. Hyacinthe, Que., was recently granted authority to change its name to Super Knitting Mills Co. Ltd. E. Lafrance continues as president while R. Lafrance succeeds V. Sylvestre as vice-president.

Auburn Hosiery Mills, Auburn, Ky., has filed amended articles of incorporation authorizing an increase in its capital stock from $150,000 to $268,000.

Belknap Mills Corp., Laconia, N. H., has awarded contract to Guay & Tardiff Co., Laconia, for a proposed two-story addition, previously reported, to cost about $50,000, with equipment.

Bond Hosiery, Inc., Blackwood, N. J., has purchased Blenheim Silk Hosiery Co., with local mill, and will operate it, continuing the present line of output.

Comet Plant of Leininger Knitting Co. Inc., Mohnton, Pa., was taken over July 1, by Luke A. Lutz who resigned as treasurer to become owner and operator.

Dorothea Knitting Mills Ltd. & Dorothea Hats Ltd., Toronto, is successor to Dorothea Hats Ltd., permission having recently been granted by the Ontario government for change of name. Capitaliza-

How Fast and Safe will Samples DRY?

IN

EMERSON OVENS

Samples are safe from scorching without constant attention of operator

10 Basket Oven
Floor Space 3' x 6'

Electrically heated, and temperature controlled by thermostat.

Fans provide air circulation.

Bone-dry weights determine moisture regain in fabrics, yarns, raw materials.

Scales for weighing samples in oven operated without opening oven door.

Savings made by checking specifications for each manufacturing department.

10 basket oven for samples of ½ lb. or more 10 cylindrical baskets 8" diameter — 9" deep. Or 8 baskets or reels 7" x 7" and 18" deep or 20 large skeins dried from hooks.

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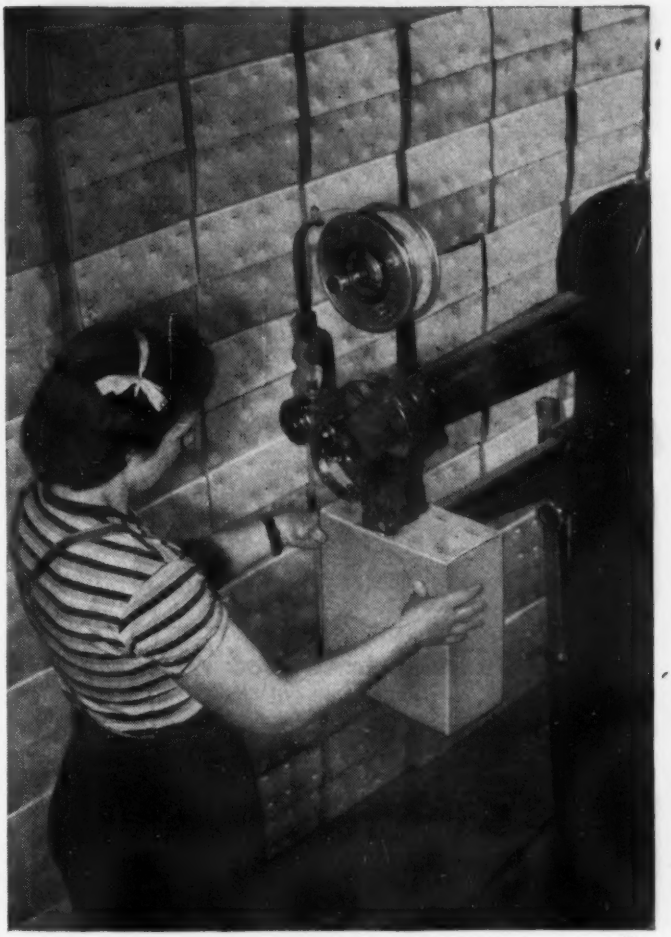

STITCH WITH STEEL TO SAVE MANPOWER

With a press of the pedal, rapidly formed steel stitches drive continuously through tough boxboard. Stitching with steel is just that fast . . . and speed saves manpower by increasing production volume. Acme Silverstitchers prove it.

Stitching with steel makes stronger carton closures, gives better container appearance . . . with economy. Acme Silverstitchers prove this, too . . . every time!

Silverstitchers are power-driven machines that form staples from continuous, long-length coils of steel wire . . . Silverstitch Stapling Wire. Silverstitchers have few moving parts . . . vital parts reversible for long service. The result: years of top performance through simplicity of operation.

For a photo story on how Acme Silverstitchers can help you, write today for informative folder.

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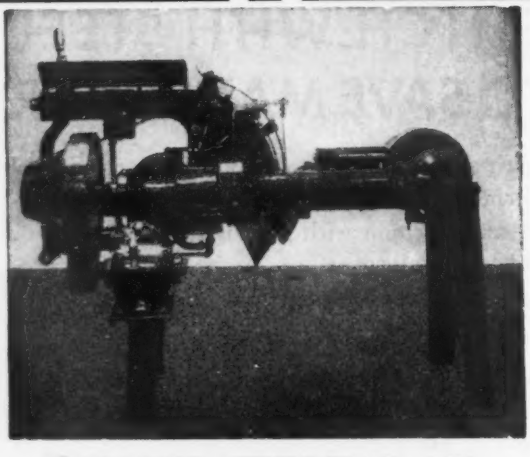

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BOBBIN STRIPPER

HIGH CLEANING CAPACITY
Protects barrel and finish. Usually pays for itself in one year—always within 18 months.

Complete information promptly furnished upon request

The Terrell Machine Co., *Inc.*

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James F. Notman.....Needham, Mass.—N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J.—Penna., N. J. and N. Y.
Geo. Thomas & Co.....Manchester, England—European Agt.

NEWS ABOUT MILLS

tion has also been increased from $40,000 to $80,000.

Eleanor, W. Va.—The Federal Public Housing Authority has received bids on a nylon hosiery mill, but no decision or acceptance has been made.

Elliott Mfg. Co., Manchester, N. H., has been taken over by Wilson Bros., Chicago. A new corporation has been formed, with Harold Mittelstadt, president of Wilson as president. Edward T. Flanagan remains as superintendent.

Fairfield Knitting Mills, Inc., Westport, Conn., has been incorporated with a capital of 200 shares of stock, par value $10. Incorporators are Howard D. Norris, Ruth E. Norris, and Helen R. Pollier, all of Westport.

Hess-Taylor-Kreiss, Co., has had their bid of $1,200,000 for three government-financed southern homestead hosiery mills, operated by Dexdale Hosiery Mills, accepted by the Federal Public Housing Authority. The three mills at Jasper, Ala.; Crossville, Tenn.; and Eleanor, Va., operate nearly 1,000 full-fashioned machines.

Fox River Valley Knitting Co., Appleton, Wis., has let contract to Miron & St. Aubin Construction Co., Appleton, for a two-story and basement addition, 70x71 ft., to cost over $35,000, with equipment.

Full Knit Hosiery Mills, Shelby, N. C., have purchased a tract of land of about three acres on which to construct a modern plant when materials are available. The firm is now housed in a leased building where it operates 60 machines.

Hartford Knitting Co., Manchester, Conn., has registered a change in name to Roosevelt Knitting Co., Inc.

Koenig Knitting Mills, Ltd., Toronto, Ont., plan a new one-story mill, about 125x200 ft., at 1179 Bathhurst St., to cost close to $90,0000, with equipment. S. B. Coon & Son, Toronto, are architects.

Munsingwear, Inc., branch plant at Albert Lea, Minn., was damaged recently by a hail storm with an estimated loss of $5,000. Hailstones broke glass skylights and damaged approximately 50 machines.

Nolde & Horst Co., Reading, Pa., hosiery manufacturers have been granted a permit for construction of a 60x100 ft. brick and concrete building to be used for storage and other purposes, to cost $12,000.

Pacific Mills have plans under way for establishment of an underwear plant near Asheville, N. C., in the near future. A first underwear unit, with about 100 machines, is being established in Hickory, N. C., by the same company.

Prospect Knitting Mills Ltd., with head office in Toronto, Ont., was recently organized under an order granted by the Ontario Government. Capitalization amounts to $40,000.

Rennie Industries Ltd., Toronto, have begun construction of a 100x250 ft., one-story plant in Guelph, Ont., for the manufacture of hosiery and outerwear.

Zwicker Knitting Mills, Appleton, Wis., have opened a branch plant for finishing operations on gloves.

PROCESSING PLANT NEWS

Abbott Dye Works, Inc., 178 Lawrence St., Lawrence, Mass., have been organized with capital of 100 shares stock, no par value, to operate a dyeing and bleaching plant. John Abbott is president and treasurer.

Philmar, Inc., New York, has purchased two properties in Paterson, N. J., and will conduct a dyeing business in one. The company has also taken over plant and equipment of E. & W. Dyeing Corp., Paterson.

Southern California Hand Prints, Los Angeles, Calif., has been incorporated with a capital of $10,000. Directors are W. L. Thompson, Hermosa Beach, Calif; Henry R. Thomas, Palos Verdes Estates, Calif; and Esther E. Perry, Playa del Rey, Calif. The new corporation is represented by Flanagan, Wilson & Thomas, Los Angeles, Calif.

United States Finishing Co., Greenville district, has awarded the general contract to Associated Construction Co. Groton, Conn. for a new one story addition to its plant in Norwich, Conn., to cost $50,000.

DANA WARP MILLS

Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps
Seamless grain bags.

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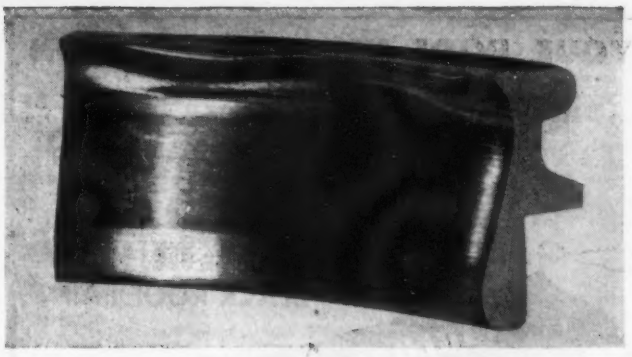
Mr. C. F. Peffer, The Merchandise Mart, Suite 1076, Chicago 54, Ill.
Mr. Arthur Bone, 4436 Worth St., Los Angeles 33, Cal.



Your rings may not be worn like this, but....

When a ring gets this bad, there's no question about its hurting production. But there are also less obvious stages of wear at which it is true economy to replace worn rings. New DIAMOND FINISH, with their superb polish assure a smooth change-over, and permit your machinery to deliver the maximum of quality and quantity.

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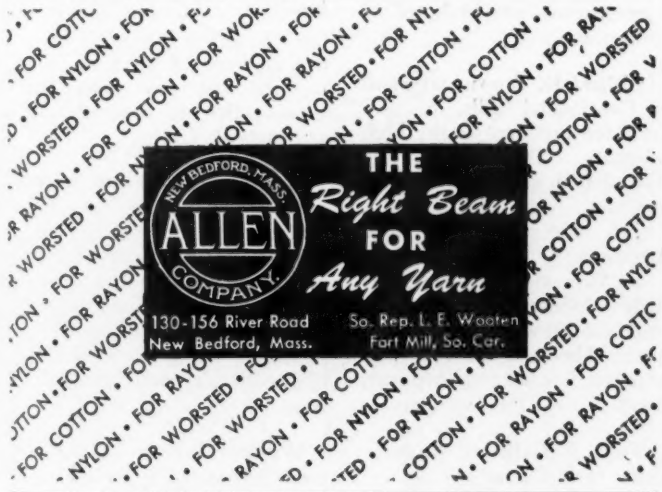
SPINNING DIAMOND FINISH **RING CO.**
Makers of Spinning and Twister Rings since 1873



Stop Cloth Spoilage!

Unchecked loss from oil spots cuts deeply into production. 7 out of 10 mills eliminate this loss by using NON-FLUID OIL—the dripless, waste-less lubricant.

Saving its own cost many times over by preventing oil damage—NON-FLUID OIL also saves on lubricant and application cost—by outlasting oil 3 to 5 times.

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NON-FLUID OIL
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MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

THE OLDEST AND LARGEST
MANUFACTURER OF
Ring Spinning and Twister Travelers
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United States Standard
Wentworth Double Duty and Gravity Travelers

MAKE STRONGER YARN
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A New Chemical Treatment
Write Us

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LOW COST INSURANCE

Against
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Resulting from Leaky Roofs.

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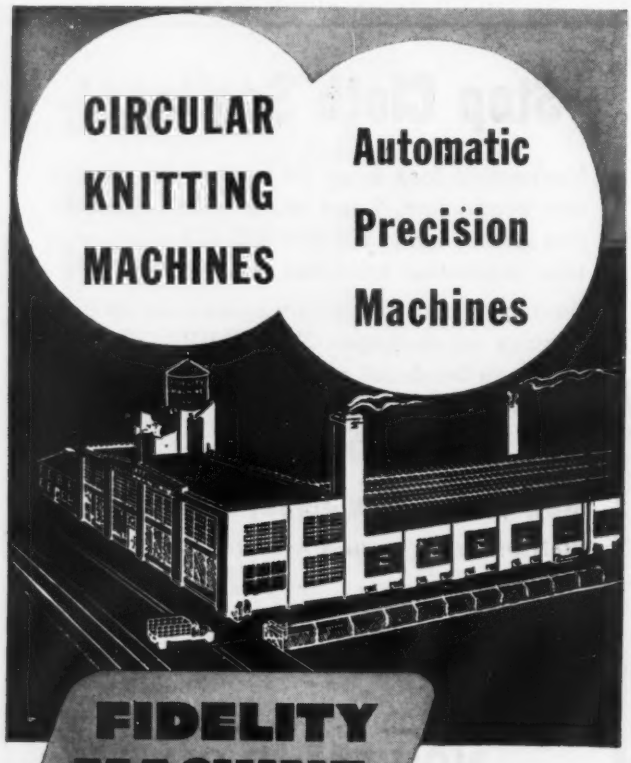
Automatic Precision Machines



FIDELITY MACHINE COMPANY

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

NEWS ABOUT Men

A. ILLGES, vice president and treasurer of Swift Spinning Mills, Columbus, who was elected president of the Cotton Manufacturers' Association of Georgia, at a recent meeting of the executive board which took the place of the usual annual meeting of members.

Elmer L. Ward, president of Goodall-Sanford, Inc., has also become president of the newly-organized selling division of the company, Goodall- Fabrics, Inc. Other officers are **F. Everett Nutter,** secretary; **Paul E. Carr,** executive vice-president and general manager; **Jud E. Williams,** vice president and general sales manager; and **Arthur Jones,** assistant treasurer.

H. Wickliffe Rose, coordinator of research and planning of American Viscose Corp. Wilmington, Del., has been elected chairman of the board of governors of the Philadelphia Textile Institute, succeeding **M. Earle Heard** of West Point Mfg. Co., who remains on the board. **Alban Eavenson,** of Eavenson & Levering Co., was re-elected vice-chairman of the board of governors.

Millard D. Brown, president of Continental Mills, Inc., was reelected president of the Philadelphia Textile Institute Foundation at its first annual meeting in Philadelphia. Other officers include **Alban Eavenson,** of Eavenson & Levering Co., vice president; **W. Lyle Holmes, Jr.,** president, Archibald Holmes & Son, treasurer; **Theodore B. Hayward,** manager, wool department, Swift & Co., Inc., secretary.

Fuller E. Callaway, Jr., president of Callaway Mills, LaGrange, Ga., has been elected a Fellow of the Textile Institute of Manchester, Eng. His election makes him the tenth person in the United States to receive this honor.

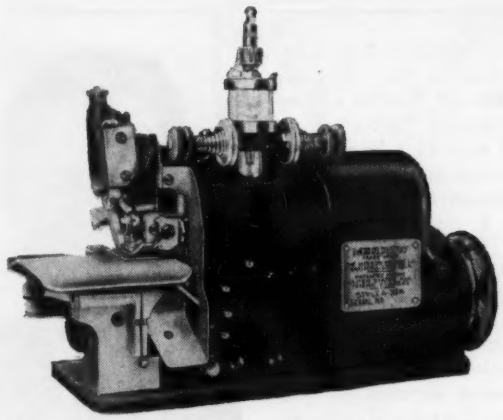
Kenneth R. Fox, president of Lowell Textile Institute, and **Walter J. Hamburger,** director of the Fabric Research Laboratories, Inc., Boston, Mass., have been admitted as fellows of the Textile Institute, Manchester, England. A graduate of Lowell Textile Institute and Massachusetts Institute of Technology, Mr. Fox is president of the Boston Microchemical Society. Mr. Hamburger is a graduate of M. I. T. and for the last few years has been active in research on acronautical fabrics.

Gardiner Hawkins, formerly vice president of Deering Milliken & Co., Inc., and recently primary-products price executive, OPA, has been made executive director and treasurer of the Rayon Yarn Producers Group, now located in the Empire State Building, New York.

William H. Koar, of Anderson, Clayton & Co., New York, was elected president of the New York Cotton Exchange at a recent meeting. Other officers are **Frank J. Knell,** vice president; and **Benedette Lopinto,** treasurer.

Bernard J. Conlin was recently elected president of the Wool Associates of the New York Cotton Exchange. Other officers include **Albert W. Hilliard,** first vice president; **Lawrence P. Hills,** second vice president; and **Benedette Lopinto,** treasurer.

Delbert E. Ray, of Massachusetts Mohair Plush Co., Lowell, Mass., was reelected chair-



Merrow Class A Machines, illustrated, have made possible quality production, high speed and low operating costs to a degree greater than ever before. They are easy to handle, simple to adjust, sturdy in design, accurate in workmanship and readily adapted to many kinds of work. Let us or our distributor nearest you demonstrate the work of these machines on samples of your own fabric.

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MERROW HIGH SPEED
REG. U. S. PAT. OFF. AND IN FOREIGN COUNTRIES

OVEREDGING, OVERSEAMING AND HEMMING MACHINES

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Types 501, 502, 503, 504 and 505

WAR WORK DEMANDS

Quality Results—High Production
Convenient Handling
Minimum Time-Out for Adjustment
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Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work—Our Distributors or Our Direct Representatives Are on Call to Advise You Suitable Machine Arrangements for Various War Work and Proper Care and Operation of Machine.

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STARTING ITS SECOND CENTURY

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CHARLES COOPER CO., INC.
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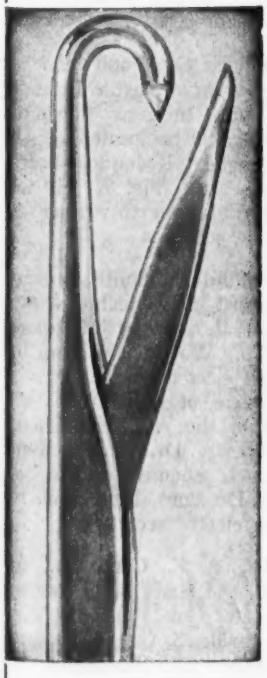
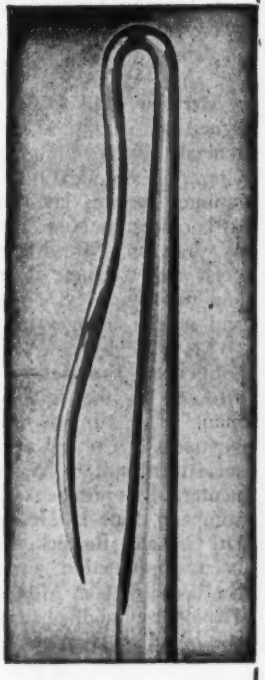
Manufacturers of
Quality LATCH and SPRING-BEARD



NEEDLES



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Manufacturers of **THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES**

CRANE
KNITTING MACHINES

meet the need for Speed—
for Quality and Low Cost

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why
—and how . . . just **WRITE**

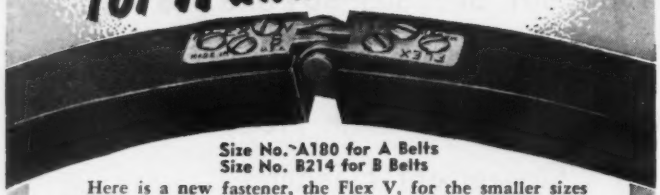
1870 **CRANE** 1945

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle
KNITTING MACHINERY

and now the FLEX V TRADE-MARK

A new Fastener for A and B V-belts



Size No. A180 for A Belts
Size No. B214 for B Belts

Here is a new fastener, the Flex V, for the smaller sizes of V-belts that is going to establish the same outstanding performance record as the Alligator V-belt fastener has already established for the larger sizes of V-belts.

This new Flex V fastener is made in two sizes for A and B section V-belts. It is simple in design, easy to apply and the separable hinge joint makes for quick replacement of V-belts without dismantling shafting or machinery. No metal touches the pulley so Flex V fastened belts can be run on a V-flat drive.

Folder No. V-12 gives complete details on this new Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

Order from your supply house

FLEXIBLE STEEL LACING CO.
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Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

It is with deep regret that we announce the death on Tuesday, May 29, 1945, of our Founder and President,

MR. ALFRED HOFMANN.

ALFRED HOFMANN, INC.
ALFRED HOFMANN & COMPANY
ALFRED HOFMANN NEEDLE WORKS, Inc.

West New York, N. J.

NEWS ABOUT MEN

man of the northern New England section of the American Association of Textile Chemists & Colorists. Other officers reelected were **G. Clifford Emmons**, American Woolen Co., vice chairman; **George O. Linberg**, E. I. du Pont de Nemours & Co., treasurer; **Azel W. Mack**, Hart Products Corp., secretary.

William L. Marshall, Jr., of Wadesboro, N. C., has just been named secretary of the American Cotton Manufacurers Association, Charlotte, N. C. Until recently he was head of the textile branch of WPB.

Robert H. Moeller, Charlottee, N. C., treasurer and manager of Larkwood Hosiery Mills, Inc., has been elected vice-president of Chadbourn Hosiery Mills, Inc., parent firm. He will have full authority in directing styling of the Larkwood brand and will work with **W. W. Sharp, Jr.**, in opperation of Chadbourn and its subsidiaries. **Guy E. Tysor**, of Greensboro, N. C., has been elected secretary of Larkwood and **Frank T. Boynton**, plant manager.

Waldemar R. Kuenzel resigned recently as manager of fabric development of the rayon division of E. I. du Pont de Nemours & Co., to join Deering Milliken & Co., where he will be in charge of all fabric development.

Matthew H. O'Brien resigned as vice president and general attorney of Celanese Corp. of America June 1 to resume private law practice with offices in New York and Washington. Mr. O'Brien had been with Celanese since 1933 and was elected vice president and general attorney in 1942.

Spencer Brownell, Jr., an attorney in the legal department of E. I. du Pont de Nemours & Co. was appointed special assistant to **W. S. Carpenter, Jr.**, president of the company, June 1. He succeeds **Dr. C. Lalor Burdick**, who has been appointed chairman of the board of Cia. Mexicana de Explosivos, and chairman of the board of Du Pont S. A.

Milton M. Stuart has been made executive vice president in charge of merchandising at M. Lowenstein & Sons, Inc. **Irving Kleiner**, vice president

RICHARD POHLERS, vice president of Simmons Co., and general manager of Rosemary Sales Division, New York, who has been elected a trustee of the Philadelphia Textile Institute Foundation, a philanthropic organization for extending scientific and practical training to those who desire to become associated with the textile or allied industries.

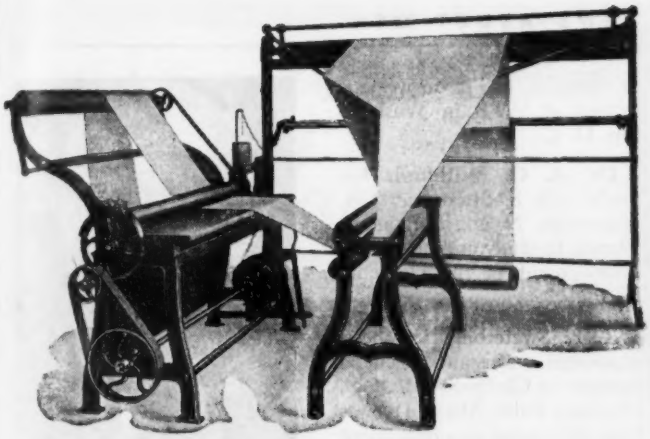
will supervise Aleo Mills, Inc., and will be succeeded as merchandising head of the wash goods department by **Victor Kahn. Jerome Baron** has been made head of the mail order department.

Nettleton P. Murphy, formerly associated with Oscar Heineman Corp., Chicago, Ill., has been put in charge of the division headquarters of Duplan Corp., which have been moved from Charlotte to Greensboro, N. C.

Douglas G. Woolf who has resigned from Textile Research Institute, Inc., as previously noted, will be located at 719 Esplanade, Redondo Beach, Calif., after Aug. 1. He will devote his time to writing and related activities.

Clifford M. Smith, research specialist, rayon technical division E. I. du Pont de Nemours & Co., Waynesboro, Va., has been elected executive vice chairman of the Virginia section of the American Chemical Society. **Dr. Mary E. Kapp**, research chemist, rayon division, Du Pont, Richmond, has been elected secretary.

Walter E. Greer, Jr., formerly secretary and assistant treasurer of Judson Mills, Greenville, S. C., has accepted a position with Burlington Mills Corp. as deputy to G. F. **Gregg** in the planning and control department, in Greensboro, N. C. For the last two and one-half years he has been



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Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

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Acme Products

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Speak for Themselves

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FRANKLIN, N. H.

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For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.
No matter what type bobbin you need, come to Cloverleaf. Our Organization is constantly engaged in developing new types of bobbins, keeping ahead of every need of the Textile Industry.
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STATIC
NEUTRALIZER

Reduces waste and Stabilizes the production rate in many operations

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NAPPERS - SHEARS AND MANY OTHER MACHINES

CHAPMAN ELECTRIC NEUTRALIZER CO.
BOX 268, PORTLAND, MAINE

in charge of the rayon weaving section of WPB in Washington, D. C.

Dr. A. C. Withford, formerly with S. Stroock & Co., Newburgh, N. Y., has gone to Florida to study and aid in the development of the ramie industry.

R. L. Sweterburg has been appointed assistant general manager of Chicopee Mfg. Co., Chicopee Falls, Mass. He was formerly general superintendent at Ware Shoals Mfg. Co., Ware Shoals, S. C.

Martha L. Wallace of Raleigh, N. C., honor graduate of the North Carolina State College Textile School in 1945, has been appointed to direct the work of the physical research laboratory of the textile school. During her academic career she became the first girl to receive an honor medal from the NACM.

Archie G. Wilcox recently resigned as president and treasurer of Wilcox Lace Corp., Middletown, Conn. It was stated that these offices will be filled by members of Native Laces & Textiles, Inc., affiliated merchandising organization of Wilcox and other mills. Mr. Wilcox is to join the latter as technical advisor on machine problems.

Earl Foss, Wilton, Me., has been elected president of the Maine Woolen & Worsted Association, succeeding **William Cummings** of Newport.

Emmett J. Driscoll, for the last 23 years with Sayles Finishing Plants, Inc., has joined the executive staff of Turner Halsey Co., New York.

Joseph L. Baker is now vice-president in charge of production for Artloom Corp., Philadelphia, Pa. He succeeds **A. S. Mitchell.**

Horace Kaiser has become manager and vice-president of Abbeville Mills Corp., Abbeville, S. C., succeeding **P. H. Burrus, Jr.,** who resigned to accept a similiar position with Jackson Mills, Iva., S. C., and Welford, S. C. Mr. Kaiser was formerly superintendent of Drayton Mill, Spartanburg, S. C.

William S. Dean, formerly head designer of S. Stroock & Co., Newburgh, N. Y., has joined with others in forming

JOHN W. REAVIS, of Jones, Day, Cockley & Reavis, Cleveland, Ohio, attorneys, who has been elected a director of Industrial Rayon Corp., succeeding Grover Higgins of the same firm, who resigned to accept a temporary government post overseas.

Royston, Inc., New York, fabric converters. Also with him are **Maurice Halpern,** formerly Stroock's sales manager and assistant secretary, and **Major Royston,** salesman.

Guy B. Arthur, Jr., for the last two years personnel manager of American Thread Co., Dalton, Ga., has been made vice-president and director.

Alton D. Elliot, formerly assistant general superintendent of Pacific Mills, Hampton Division, Columbia, S. C., has become general superintendent of Chadwick-Hoskins Co., Charlotte, N. C.

A. D. Madge has become secretary and assistant treasurer of Pacolet Mfg. Co., Pacolet, S. C., succeeding **W. B. Lawson,** who has retired.

Moses Macia has been named assistant head of fabric development at A. M. Tenney Associates, selling agents for Tennessee Eastman Corp., New York. A graduate of New Bedford Textile School, he was formerly with Deering Milliken & Co., Inc.,

E. M. Schenke, formerly director of research for National Association of Hosiery Manufacturers, has joined the WPB as assistant chief of the hosiery section, Textile Bureau.

J. L. Lynch was elected president of the Atlanta, Ga., Textile Club for 1945, and **T. L. Osborne,** vice president.

Douglas M. Orr has resigned his post as supervising attorney

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

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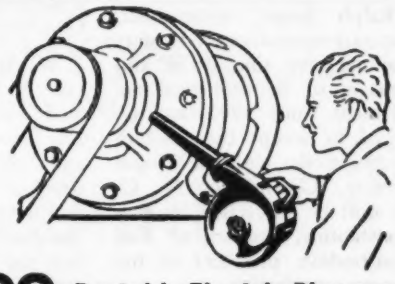
Complete color assortments

American Woolen Company

225 Fourth Avenue **New York**

Blow out Dust — Keep Motors and Machinery Clean with



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PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs. **Write for details and FREE Trial Offer**

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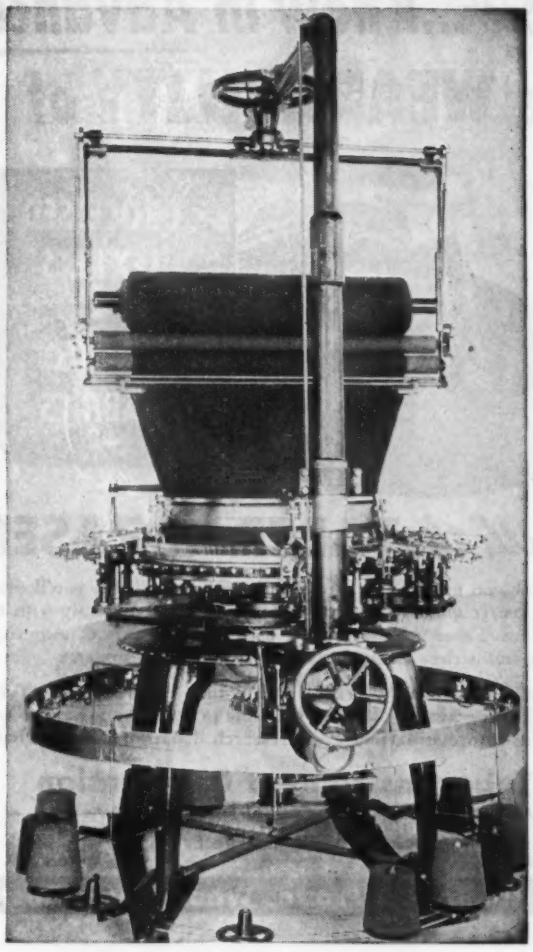
For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines. Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY



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SINGLE HEAD—SPRING NEEDLE KNITTING MACHINE

1. **50% reduction in cost of production on most coarse or fine fabrics.**
2. **Virtually double the poundage produced by earlier models of Tompkins spring needle machines.**
3. **Produces a superior quality of knitted fabric, getting the most out of every grade and size of yarn.**
4. **Basis of all statements is on actual mill performance and production on S-1 models now installed.**

All reasons that will save you money! The new S-1 single head spring needle machine is especially designed for overcoating materials. At the same time, any fabric can be knit on it that is knit on the older type spring needle table. Production is approximately 100 yards per 8 hour day, using 6 feeds.

For further details write us direct.

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Whether you *make* or *buy* any of the products listed, you'll make or buy *better quality* if you pre-test them quickly, simply with the marvelous Taber Abraser. Now used by hundreds of America's leading industries. Soon earns its cost many times over.

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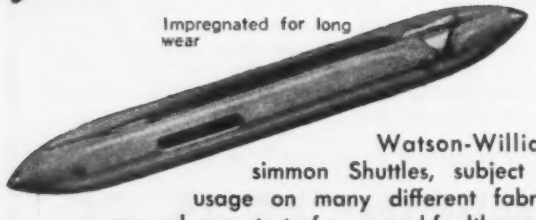
PERSIMMON SHUTTLES



Watson-Williams Persimmon Shuttles, subject to long usage on many different fabrics have passed every test of wear and faultless operation.

WATSON-WILLIAMS MFG. CO., Millbury, Mass.

NORTHERN REPRESENTATIVE: G. C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass. SOUTHERN REPRESENTATIVES: John W. Littlefield, 810 Woodside Bldg., Greenville, S. C.; Walter F. Daboll, 703 Jefferson Bldg., Greensboro, N. C.

FOUR EMPLOYEES of the Hopewell, Va., plant of Tubize Rayon Corp. were recently awarded certificates of service in recognition of 25 years of continuous employment with the company. Shown above receiving the awards at the conclusion of a three-day sightseeing trip to New York are William F. Johnson, carpenter foreman; Earl Van Vliete, vice president of Tubize; Gordon G. Rice, accountant; Edward H. Maitland, chief time-keeper; and Kennth E. King, purchasing agent.

for the Securities Exchange Commission's corporation finance division to become general counsel for Burlington Mills Corp., Greensboro, N. C.

John M. Hughlett has been appointed general sales manager of Riverside & Dan River Cotton Mills, and will continue to have headquarters in the New York sales office. He is succeeded as manager of the staple colored goods department by **James F. McCarthy.**

Ralph Jaeger, comptroller, National Association of Hosiery Manufacturers since 1934, and manager of the statistical department since 1942, has resigned to accept the position of comptroller with the Mojud Hosiery, Greensboro, N. C. He will be succeeded by **Roy Constantine,** brother of **Earl Constantine,** president of the hosiery organization.

G. Blair Gordon, president of the Dominion Textile Co., Ltd., with head office in Montreal, Que., was recently elected president of the Canadian Manufacturers' Association.

J. J. Scott, president of Scottdale, Mills, Scottdale, Ga., has been elected president of the Textile Education Foundation. **J. T. Hightower,** vice-president of Thomaston Cotton Mills, Thomaston, Ga., was elected vice-president, and **Frank B. Williams,** agent for West Point Mfg. Co., West Point, Ga., treasurer.

W. Weldon Rogers, Greenville, S. C., has become associated with the Ely & Walker Dry Goods Co., St. Louis, Mo., and will have charge of the development and research department. He is president of the Southern Textile Association and has been general manager of Jackson Mills.

Men in Armed Services

Edmund B. Gregory, quartermaster general of the United States Army, has been promoted to the grade of lieutenant general. Appointed a cadet at the U. S. Military Academy in 1900, Gen. Gregory has followed a military career ever since in supply and quartermaster corps. He is the first quartermaster officer to have reached this high rank.

Frank J. Upchurch, of Raleigh, N. C., who was employed by the D. & S. Engineering Co., Charlotte, N. C., as a textile engineer, before entering the Army in 1942 has been promoted to captain in China where he is serving as liaisson officer with a Chinese division of the Combat Command. He was awarded the Bronze Star Medal for meritorious service during the Salween campaign.

D. St. Pierre DuBose, vice president and treasurer of Durham Hosiery Mills, Durham, N. C., prior to entering the Army in April 1942, has been promoted to lieutenant colonel at Robins Field, Ga., headquarters of the Warner Robins Air Technical Service Command where he is serving as chief of management control.

Hugh A. Brown, Jr., on leave from Mooresville Cotton Mills, has been commended

STANDARD SILICATES

ALKALI

DEPENDABLE-UNIFORM

Combining high soil-suspending power with controlled alkalinity over a wide range, STANDARD TEXTILE SILICATES are made in grades to meet your particular needs *exactly!*

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Always A Winner!

★ Penetrates Thoroughly

★ Dependable

★ Carries Weight Into the Fabric

★ Always Uniform

★ Boils Thin

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MACHINERY
TENTERING
and DRYING

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
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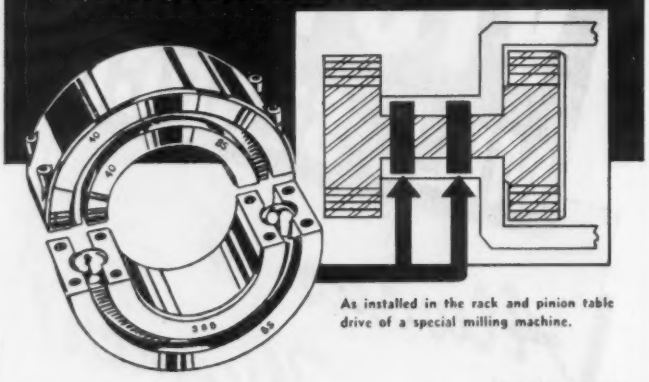
WRITE US FOR SAMPLES AND QUOTATIONS

TYPICAL APPLICATIONS OF SPLIT BALLBEARINGS . . .

TRANSMISSION SHAFT



As installed in the rack and pinion table drive of a special milling machine.

Easily disassembled and assembled by means of special type taper head screws and a socket head wrench, Split Ballbearings open up an entirely new field in design. Better engineering becomes possible, such as completely equipped antifriction crankshafts. Also Shaft Flanges, Accessory Drives, Gear Clusters and the like can be made as integral units instead of keyed or coupled assemblies. In other cases, where normal use requires frequent replacement, Split Ballbearings can be used to advantage and will cut down time to a minimum.

Send for Catalog T.W.-7-45

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SPLIT BALLBEARING CORPORATION

LEBANON, NEW HAMPSHIRE, U. S. A.

INDUSTRIAL ENGINEERS

Specializing in

TEXTILES FOR MORE THAN A QUARTER OF A CENTURY

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COST SYSTEMS — WORK LOAD STUDIES

PAY ROLL CONTROLS

COST REDUCTION SURVEYS — SPECIAL REPORTS

GREENVILLE, S.C. — FALL RIVER, MASS.

Simplified DESIGN
Flexible POWER
Better EVAPORATION
More sensitive CONTROL

SOUTHWORTH HUMIDIFIER

Experienced textile men who know the merits of previous models of Southworth Humidifiers have found improvements in Model D that make it even more reliable and efficient.
Extreme sensitivity of control, and an "airplane propeller" type fan for greater evaporation, are two outstanding features.

NOTE

This advertisement is to remind you to include Southworth Humidifiers in your after-the-war plans. Frankly, we are 100% on war work and cannot make humidifiers at the present time.

THE SOUTHWORTH MACHINE CO.
PORTLAND MAINE

NEWS ABOUT MEN

for superior work. He is a captain in the Army and has been serving as acting assistant adjutant general and assistant to the assistant chief of staff in the Alaska-Aleutian area.

Charles V. Moran, paymaster at Pacific Mills, Dover, N. H., before entering the service, has returned from three years' overseas duty with the Army Finance Detachment in which he is a technical sergeant.

Eubert W. McLeod of Carthage, N. C., a textile engineer prior to entering the Army in June 1941, has been promoted to major with the headquarters of the Panama Canal Department where he is serving as property officer.

James H. Asbury, Jr., former president of Margate Hosiery Mills, Chattanooga, Tenn., who has been serving as adjutant in headquarters, Antilles General Depot, Puerto Rico, has been promoted to major.

George L. Barron resigned recently as chief inspector of textiles for Charlotte, N. C., Quartermaster Depot after five years of service with the War Department. A graduate of the New Bedford Textile School, he has been engaged in the textile industry for 20 years.

LT. COL. PAUL H. HINES, who has returned to his native city Boston to head the drive being conducted in the textile centers of Massachusetts, Rhode Island, and New Jersey by the Quartermaster General's office to step up production in the wool top industry. Underwear, socks, olive drab trousers, shirts, and field jackets, made from worsted yarn, are a few items for which the Army has an immediate need.

Obituary

Alfred T. Cockefair, for many years manager of the New York office of Riverside & Dan River Cotton Mills, Danville, Va., died at his home in Glen Ridge, N. J., June 25. He retired in 1940.

William Smith, 80, former principal of the New Bedford Textile School for 12 years, died recently. Before becoming instructor in carding and spinning in 1904, he was employed in the Clark Thread Mills of New Jersey, and by Mason Machine Works.

L. LeRoy Spangler, 49, of Philadelphia, Pa., president of Fidelity Felt Co., died June 16.

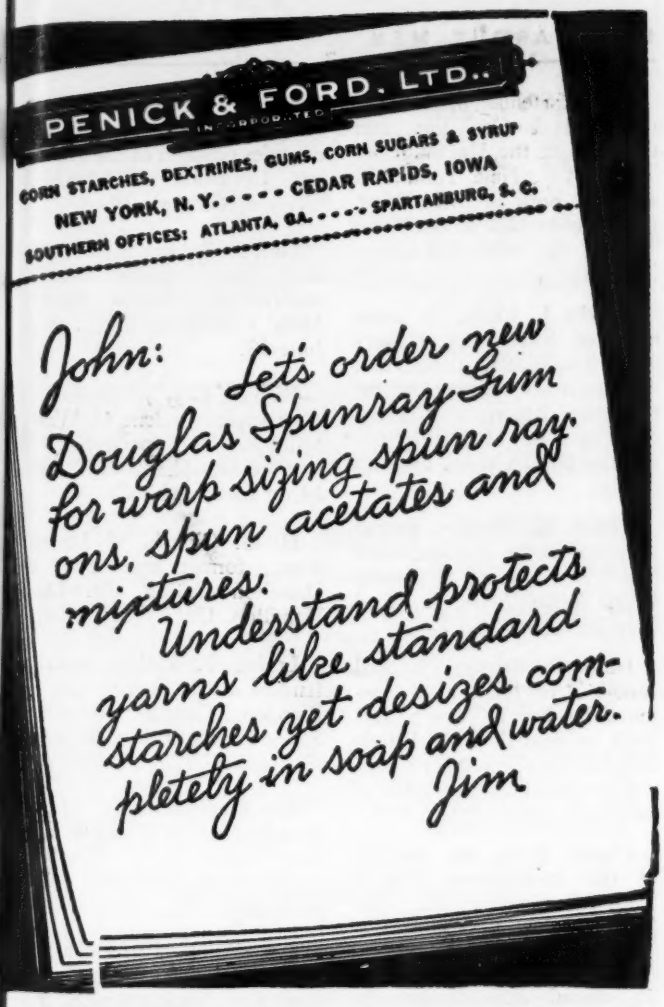
Carl W. Davidson, 42, for 18 years a member of the designing department of the Margrace unit of Neisler Mills, Inc., Kings Mountain, N. C., died June 19.

Walter James Harris, 79, president of Continental Dye Works Philadelphia, Pa., died recently. He was co-founder of the dye works with his father, and had been its president since 1913.

Charles A. Bishop, 67, controller of Dominion Textile Co., Ltd., Montreal, Que., died recently. He was formerly associated with Montmorency Cotton Mills Co., and Merchants Cotton Co.

Richard Alexander Carrington, 76, a member of the board of directors of Lynchburg Cotton Mills, Lynchburg Va. died June 17. He was formerly a director of the Lynchburg National Bank and for many years served as chairman of the board of the Lynchburg Shoe Co. of which he was a founder.

James S. Gill, founder of the Jewell Brook Woolen Co., Ludlow, N. H., died recently. A graduate of Massachusetts Institute of Technology, and the Philadelphia Textile Institute, he was formerly associated with Ludlow Woolen Mill.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NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures.
Understand protects yarns like standard starches yet desizes completely in soap and water.
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RAPIDASE

for de-sizing cottons, rayons and mixed goods

Assures rapid, dependable de-sizing

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Static Control plus 18 Colors

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The Original Conditioner

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BRETON OILS FOR WOOL:

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Inhibitor and Stabilizer
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Originators of the BRETON MINEROL PROCESS for Fiber Conditioning
ESTABLISHED 1874
ELIZABETH, N. J. CHARLOTTE, N. C.

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ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

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CHARLOTTE, N. C.

NEWS ABOUT MEN

Emil J. Stehli, 76, president of Stehli & Co., Inc., and chairman of the United States Testing Co., New York, died recently. Born in Switzerland, he came to this country and founded the Stehli Silk Corp., in 1898.

Charles L. Clark, 71, president of Sweetwater Hosiery Mill, Sweetwater, Tenn., and also secretary-treasurer of associated American Textile Woolen Co., of Sweetwater, for the last 25 years, died recently.

Albert H. Bleckley, former president of the Dorrancetown Silk Works, division of Duplan Corp., Wilkes-Barre, Pa., died May 26.

James R. Brown, 78, died June 5 at his home in St Lawrence, Pa. For 35 years he had been associated with Esterly Woolen Co., Esterly, Pa. and was president at the time of his death.

Charles Estes, 64, operator of the Montgomery Cotton Mill, Montgomery, Ala., died June 6, in New Orleans, La.

Albert Starke Hagood, 35, an official and director of Pickens and Glenwood Mills, Easley, S. C., formerly reported missing in action, is now reported as having been killed in Germany. A lieutenant in the army, he was in service since 1943.

James Parker Highsmith, Jr., manager of the Chicago, Ill., office of Bibb Mfg. Co., Macon, Ga., died suddenly June 2.

Ernest Doute, of Cheney Bros., Manchester, Conn., died recently. He had been connected with silk and rayon industries for many years as textile technologist.

Amory Thompson Skerry, Jr., 81, son of the founder of the sale yarn business of A. J. Skerry & Co., died recently in Carmel, Calif.

Sidney B. Erlanger, of Erlanger, Blumgart & Co., New York, died recently.

Phillip A. Gwaltney, 57, associated with the research department of Bibb Mfg. Co., Macon, Ga., died May 1. He was general superintendent of Marlboro Mills, McColl, S. C., before joining Bibb in 1940.

Harry Leigh Derby, Jr., 38, has been killed in action in the Pacific. A lieutenant in the Navy, he was formerly Western sales manager of the American Cyanamid & Chemical Corp. in Chicago, Ill.

Grover P. Pruitt, 60, for many years general superintendent of Dunean Cotton Mills, Greenville, S. C., died June 13.

Emmett Gray Jessee, for 18 years superintendent of Watts Mills, and later operator of his own textile plant, died June 14, in Laurens, N. C.

H. G. Clough, of Lowell, Mass., former head dyer at Hamilton Cotton Co. Ltd., Hamilton, Ont., died recently.

Loring F. Kelley, superintendent of the Poinsett unit of Brandon Corp., Greenville, S. C., for more than 20 years, died recently.

Roy Franklin Saylor, 49, superintendent of Carolina Narrow Fabric Co., Winston-Salem, N. C., died May 31 at his home.

Franz Wolf, who was a pattern maker at the Amoskeag Mfg. Co., Manchester, N. H., died recently.

David A. Williamson, 65, retired overseer at Pacific Mills, Dover, N. H., died recently.

Chester C. Whitten, 59, superintendent of the Textile Shield Co., Lawrence, Mass., died at his home in Methuen, Mass., on June 4.

Solomon Polsky, 76, a member of the firm Atlantic Knitting Mills, New York, died recently.

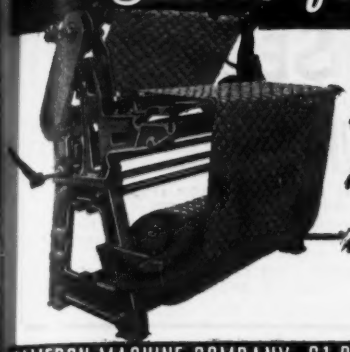
Henry A. Hunt, 65, overseer at the Steere Mills, Wanskuck, R. I., branch of the Wanskuck Co. for 35 years, died May 28.

John Hill, 58, for 25 years overseer of carding at Collins & Aikman plant, Bristol, R. I., died June 8, at Bristol, R. I.

Robert Walshaw, for many years in charge of dyeing at Blackinton Mills and at Norad Mills, North Adams, Mass., died recently.

George H. Brown, 76, retired bleachery operator for Exeter Mfg. Co., Exeter, N. H., died recently. He was a native of Glasgow, Scotland.

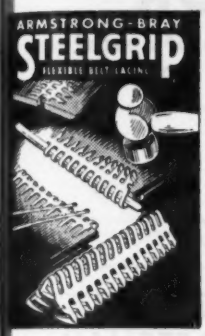
Slitter for quilting



for inspecting winding, trimming and slitting of quilting materials

CAMERON MACHINE COMPANY - 61 POPLAR ST. BROOKLYN 2, N. Y.

Midwest Office: 111 W. Monroe Street, Chicago 3, Ill.



Prompt Delivery

ON BOTH STANDARD TYPES

— on **STEELGRIP** Steel Lacing that is applied with a hammer. 11 sizes — convenient boxes or long lengths with wide belts. Have 2-piece hinged rocker pins.

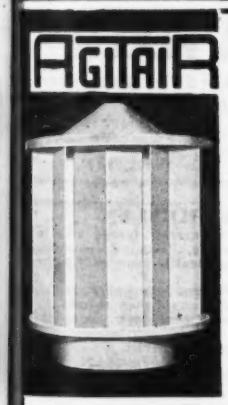
—on **WIREGRIP** Belt Hooks that are applied with any lacing machine and come with extra blue aligning cards (patented) that assure uniform tension on every hook and prevent card-end waste.

Write for Circulars

ARMSTRONG-BRAY & CO.

"The Belt Lacing People"

3340 Northwest Highway, Chicago 30, U. S. A.



VENTILATORS for TEXTILE PLANTS

Let the wind ventilate your textile plants. Breezes create suction within the Agitair Exhauster, and draw out hot, stale air and steam. When no breeze, Agitair does not impede natural ventilation.

Independent tests prove Agitair is best under actual operating conditions. No moving parts. No back drafts. Weather proof. Mount on any roof, vent, or flue cap.

• **WRITE FOR BULLETIN EX-T**

AIR DEVICES INC. • 17 East 42nd Street New York 17, N. Y.

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.

INCORPORATED

2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

A complete dictionary and encyclopedia of staple cotton fabrics

—What is that fabric?

—What's its construction?

—What can it be used for advantageously?

THESE questions are answered for you — specifically and definitely — in this book. "A long-time need by the textile industry and allied trades has been met by its publication," says *Textile World*. "Provides a text and reference book of inestimable value to textile manufacturers, designers, converters, selling agencies, students, wholesalers, department-store buyers, and persons interested in home economics. Included in the book are definitions, descriptions, constructions, and illustrations of the many types of plain-woven fabrics, leno fabrics, twills, sateens, crepes, terry, and other fabrics manufactured for apparel, household, and industrial purposes. Two features which merit particular commendation are the illustrations, natural size and enlarged, of nearly 200 different fabrics, and the excellent index."

John Hoye's

STAPLE COTTON FABRICS

241 pages, 6 x 9 illustrated, $3.50

Have you seen Moberg's

COTTON LOOMFIXERS' MANUAL

Brings you step-by-step, clear, practical instructions on all phases of cotton loomfixing. The material is so presented that the book can serve as a textbook for courses in loomfixing or as a self-study manual for those who wish to learn the art of loomfixing or who wish to improve their knowledge and skill.

197 pages, 6 x 9
108 illustrations, $2.50

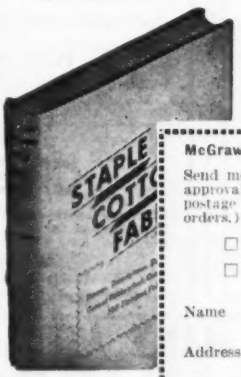
Note what this book covers:

1. Gray Plain-woven Fabrics and their Derivatives
2. Gray Leno-woven Fabrics
3. Gray Twill-woven Fabrics
4. Gray Satin-woven Fabrics
5. Staple and Specialty Dobby-woven Gray Cloths
6. Towelings
7. Colored-yarn Fabrics
8. Tickings
9. Flannels
10. Seat-cover and Awning Fabrics
11. Drapery Slip-covers, and Upholstery Fabrics
12. Table-cover Fabrics
13. Corset Fabrics
14. Bedspread Fabrics
15. Cut-pile Fabrics
16. Filled and Coated Fabrics

Descriptions and Names of Converted Cloths (Not Basic Fabrics)

MORE THAN 200 ILLUSTRATIONS, each showing a fabric natural size and as it would appear under a 5½x cloth counting glass

SEE THESE BOOKS 10 DAYS FREE



MAIL THIS COUPON

McGraw-Hill Book Co., 340 W. 42 St., New York 18, N. Y.

Send me books checked below for 10 days' examination on approval. In 10 days I will pay for books plus few cents postage or return them postpaid. (Postage paid on cash orders.)

☐ Hoye-Staple Cotton Fabrics, $3.50

☐ Moberg—Cotton Loomfixers' Manual, $2.50

Name .....

Address .....

City and State .....

Position .....

Company FTW-7-45

POSITIONS VACANT

RESEARCH CHEMISTS or chemical engineers wanted. Large textile manufacturer, vicinity New York City. Organic and physical research. Position of permanent nature leading to group leadership in expanding research and control laboratories. If interested, send full details of education, experience, salary desired and personal data. Write to A. G. Ashcroft, Director of Research, Alexander Smith & Sons Carpet Company, Yonkers, New York.

USE RESEARCH Laboratory of well-known manufacturer of organic chemicals in the mid-west has an immediate and permanent position open for a man, preferably under 35 years of age, with several years experience in the textile industry, who is familiar with the problems incident to the use of chemical specialties, such as textile oils, detergents, wetting agents, etc. With limited supervision he should be capable of conducting applied research laboratory projects, correlating data and writing well-organized reports in good English. Salary will be commensurate with qualifications. Position holds most promise for a man who is qualified by reason of personality, as well as technical background, to also do some technical service with manufacturers of chemical specialties for the textile industry. P-319, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

KNITTER must be expert on Wildman, Brinton, Scott & Williams circular machines. New York City mill. Steady, good opportunity. P-331, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

KNITTER, first-class machinist, engineering background, inventive ability, 25 years experience on all types of knitting machines, looking forward to post-war work. Interested in building and developing machines. Prefer New York area. PW-303, Textile World, 330 W. 42nd St., New York 18, N. Y.

MECHANIC, 12 years experience with well-established company on Wildman spring needle and Scott & Williams knitting machinery, including management of help. Want to locate in area with relatively dry climate. PW-320, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE ENGINEER and Chemist, 43, long experience in dyeing, printing, and finishing of textiles. For many years, chief plant chemist, technical and production manager. Desires position as technical manager or superintendent in full charge of operations and production. Release available on reasonable notice. PW-321, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 246)

POSITION WANTED

Woolen Mill Superintendent

Outstanding Record, Capable Supervisor, Costs and Modern Methods, Exceptional Labor Background. With present employer 12 years. Available by mutual agreement Sept. 1st.

PW-283, Textile World
330 West 42nd St., New York 18, N. Y.

POSITION WANTED

As Manager or Superintendent of dyeing and finishing plant. Thoroughly experienced in management, processing and production of plain dyed fabrics. Complete knowledge all equipment and operations.

PW-296, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

PRODUCTION MANAGER BRAIDED RUG MILL

Large eastern cotton rug manufacturer has opening in organization for production manager in braided rug division; excellent future for right man who must be conversant with all phases of business including raw materials, labor training, styling. State full details experience, age, compensation desired, etc. All replies will be held strictly confidential.

P-266, Textile World
330 West 42nd St., New York 18, N. Y.

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : BUSINESS : "OPPORTUNITIES" : EQUIPMENT : USED OR RESALE

UNDISPLAYED —— RATES —— DISPLAYED

10 CENTS A WORD. MINIMUM CHARGE $2.00
Positions Wanted (full or part time individual salaried employment only) ½ the above rates payable in advance.
Box Numbers—Care of publication New York, Chicago or San Francisco offices count as 10 words.
Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Individual Spaces with border rules for prominent display and advertisements.
The advertising rate is $5.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
An advertising inch is measured ⅞" vertically on a column—3 columns—30 inches to a page.

WANTED

FIXER-SUPERVISOR

Must have ability to handle labor and be capable of operating 400 needle Scott & Williams seamless hosiery machines.

Exceptional opportunity for the right man with a large new southern hosiery plant. All correspondence strictly confidential.

CHARLES P. RAYMOND SERVICE, Inc.,
294 Washington St., Boston 8, Mass.

Over forty-five years Confidential Employment Service for employers seeking men and men seeking positions.

DESIGNER WANTED

To assist with fabric development work in a firm well established in the cotton and rayon business. Applicant must have experience in fabric designing and a good working knowledge of cotton, rayon and blended yarn manufacture and weaving.

Our staff knows of this ad.

P-315, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

LACE DRAFTSMAN

Experienced, by well established firm in New York State. Apply in writing, stating details of experience.

P-297, Textile World
330 W. 42nd St., New York 18, N. Y.

LOOM FIXER

Experienced Jackard & Tap fixer, on 27" carpet looms.
Write stating full experience.

P-311, Textile World
330 West 42nd St., New York 18, N. Y.

Opportunity for Promotion Man With Textile Mill Experience

Prominent textile publication has opening in its advertising department for a promotion man who combines advertising writing ability with intimate knowledge of textile mill operations. Apply, giving complete details of past experience, age, draft status and salary requirements to

P-325, Textile World
330 W. 42nd St., New York 18, N. Y.

Wanted FOREMAN

to supervise operations in narrow textile mill in Virginia. Includes weaving, beaming, slashing. Essential industry. Narrow textile experience desirable but not necessary.
Good opportunity for the man who wants position with a responsible and well-established concern.
Write fully, stating experience, age, education, salary requirements, etc.

P-291, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

CHEMIST

Preferably with experience in textiles, for research laboratory of fungicide manufacturer for the textile industry. New York metropolitan area.

P-285, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

TIME STUDY MAN

Experienced on textiles. Good future prospects with established firm in N. H. Give full details Re: Age, Education, Experience and expected Salary.

Apply **P-318,** Textile World
330 West 42nd St., New York 18, N. Y.

BRINTON FIXER

Wanted by old established N. E. outerwear firm. Good pay, pleasant working conditions and excellent opportunity. State your experience, age, compensation desired and all other pertinent facts about yourself in your first letter. Reply

P-313, Textile World
330 West 42nd St., New York 18, N. Y.

THERE ARE MANY ATTRACTIVE OPENINGS IN MILLS

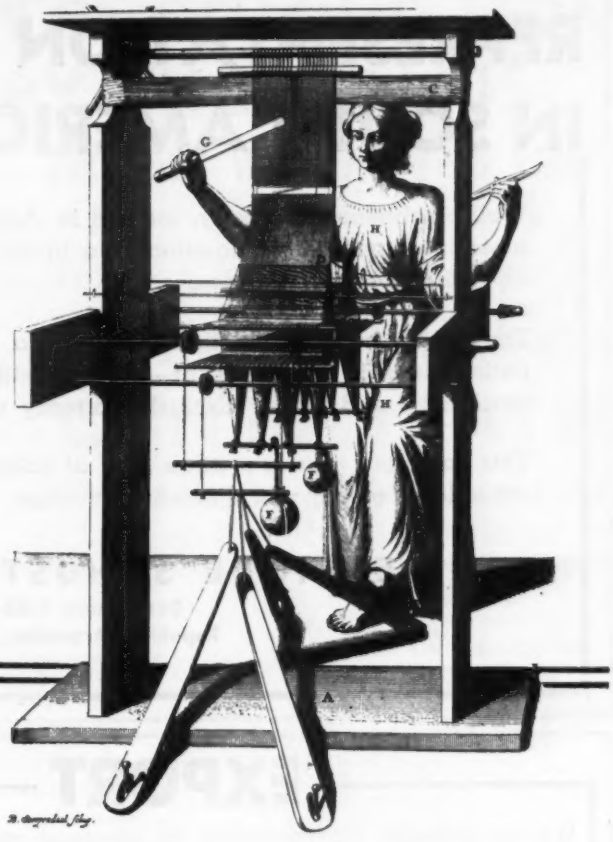
In all sections of the United States and Canada. If you are seeking employment, write us fully regarding your experience and position desired; we will inform you of positions now open in your line of work.

CHARLES P. RAYMOND SERVICE, Inc.
294 WASHINGTON STREET BOSTON 8, MASS.
Over 45 years' confidential employment service for men seeking positions and employers seeking men.

Roman Looms *followed* Roman Conquests

THE Roman Army wore clothing woven from cotton. The Romans also had factories which produced woolen goods for their soldiers who conquered the known civilized world. Their looms followed their conquests; and they taught the art to the ancient Britons. Roman priests wore garments of fine linen; and silk became the garment of the nobility in the days of Julius Caesar.

Illustration from the Bettman Archive



MLC SERVING THE TEXTILE INDUSTRY

1—60" C & M Brusher
1—66" C & M Brusher and Sander
1—46" x 52" Button Breakers
1—42" Butterworth 3-Roll Friction and Rolling Calender, 1—motor driven, 2-belt dr.
1—60" D. & F. 2 cyl. Iron Shoddy Card
1—Sargent Yarn Conditioning Machine
1—100 Spindle Foster Model 25 Doublers
1—36" Doubling & Winding Machine
1—46" Windle Doubler
1—4 delv. H & B dr. frame
1—Franklin Package Dyeing Unit, incl. three 100-lb. and one 300-lb. machine, extractor
1—26" Tolhurst Extractor
1—30" American Laundry belt driven extractor
1—40" Tolhurst extractor, belt-driven
1—60" Broadbent Copper Basket Extractor
2—Hunter No. 10 Fulling Mills
10—40" C & M 42", 50", 100" Folding Machines
1—52" James Smith Card Grinder
10—42" Modified "E" Draper with roller tops, 47½" reed space, belt driven
12—76" cloth Draper modified D automatic looms, 81" reed space with Lacy tops for 6 harness work, motor driven

FOR SALE

12—92" C & K 4 x 4 Box Looms, motor driven

1—72" Kenyon 2-Bowl Crab

1—8" D. & F. 20 roll Double Acting Napper

1—114" 2 Ball Padder, Brass and Rubber Rolls. Screw End, Lever Set.

1—114" Simpson Batcher

18—92" C & K 4 x 4 25 Harness Belt driven woolen looms
4—240 sp. D & F 2" gauge Mules
24—72" Stafford 2 x 1 automatic Looms 77" reed space, 25 harness head motions, motor driven

1—24" Parkhurst Burr Picker
1—40" Parkhurst Burr Picker
3—65½" Voelker double bed rotary cloth presses belt driven 16" cyl.
1—66" Gessner double bed rotary cloth press belt driven 12" diameter roll
1—84" Voelker Cloth Press, motor driven
2—50" Dinsmore Inspecting, Sewing & Rolling Machines, Mtr. Dr.
1—60" C & M Plush Shear
2—66" C & M 2-Blade Shears
2—66" P & W 2-Blade Shears
1—66½" P & W Model A 2-Blade Shear
1—72" Monforts 2-Blade Shear
1—Shultze 106" Double Shear
1—Smith & Furbush Rag Shredder
1—42" C & M 5 Burner Gas Singer
12—256 Sp. Whitin 2" Ring Spinners
6—24 Spindle Fairmont Drum Spoolers for 4½ x 6" spools
10,000—4½ x 6" Wooden Spools
6—120 Spindle Draper Spoolers
1—60" C & M Tiger. Arranged for Mtr. Dr.
2—100 Spindle Foster tube winders, belt driven
1—200-spindle Draper 2¼" Ring Tape Drive Twister
5—D & F Warpers with Beamers, etc., 82" to 100"
2—54" Entwistle Warpers

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. MLC 1923

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

REPRESENTATION IN SOUTH AMERICA

Well established company, located in Argentina is representing a number of manufacturers in the United States and other foreign countries.

They are now in a position to handle a few non-competing lines in the fields of—yarns, textile and textile machinery and parts. Exclusive agency desired.

This company travels a large staff of salesmen and are capable of giving you efficient coverage. Write to

ENRIQUE SCHUSTER E HIJO
Dean Funes 1153-55
Republica Argentina, S. A.

SWEDEN

Leading Swedish Agency and Import firm would like to contact manufacturers of hosiery, underwear, shirts and other textile goods for representation in Sweden. Now or soonest possible offers to

ERNST ALSBERG
Ab Sveavaegen 76, Stockholm, Sweden

Old established Swedish textile firm with excellent connections wishes to represent wool and cotton spinning machine builders.
Reply with illustrated product catalog to
BOX HW 49
care Anglo-American Industrial Newsletter
Ringvagen 14 Stockholm, Sweden

EXPORT

We are exclusive representatives of American manufacturers for all parts of the World and have our agencies established. We are interested in adding a few more lines. We attend to all shipping formalities and pay cash here. Correspondence solicited.

References Irving Trust Co., Dun's.

TERMINAL EXPORT CO., INC.
420 Lexington Ave. (Graybar Bldg.) New York 17, New York

SWEDEN

Well known textile agent wants the representation on commission basis of American Textile Mills.

Reply to
FRED. WESSING
Regeringsgatan 56 Stockholm, Sweden

References: American Legation, Stockholm.

OUR COMPANY desires connection with large-scale manufacturers of all kinds of textiles such as suitings and poplins as well as hosiery and ready-made underwear.

Svensk-Amerikanska Handels A/B, Stockholm, 3, Sweden

South American Mill Owners

We will select the machinery you require. We will also inspect machinery you contemplate purchasing. Our knowledge has been acquired by practical mill experience. "You can depend on us."
LAWRENCE H. KELLY
Textile Machinery Consultants
P. O. Box 2442, Paterson, N. J., U. S. A.

POSITIONS WANTED
(Continued from page 244)

SUPERINTENDENT-TECHNICIAN available. Competent, now employed desires increased opportunities, thorough knowledge in all phases of manufacture of rayons. PW-322, Textile World, 330 W. 42nd St., New York 18, N. Y.

SALESMAN WANTED

ESTABLISHED MOTOR manufacturer requires salesman, who should have experience in electric motors and textile equipment, to sell in Carolinas and Georgia. Replies held confidential. SW-323, Textile World, 330 W. 42nd St., New York 18, N. Y.

REPRESENTATIVES AVAILABLE

AGENCIES for Australia required for Manchester goods, cleaning cloth, cotton waste and general merchandise. Reply David Hyman, Merchant, 12 Henry Street, Kew, E4, Melbourne, Australia. (Bankers — English, Scottish & Australian Band Ltd., Kew, Melbourne, Australia.)

FIRST-CLASS Swedish agency firm desires to represent well organized USA mills producing tops, worsted yarns, cotton yarns, woven and printed cotton goods. Best references. Reply to RA-304, Textile World, 330 W. 42nd St., New York 18, N. Y.

NEW YORK Exporters of Textile Mill Equipment offer their services as Export Distributors to American manufacturers of textile and auxiliary machinery and supplies. RA-324, Textile World, 330 W. 42nd St., New York 18, N. Y.

PARTNER WANTED

To set up a pilot plant for production of Glazed Rayon Wadding. This material is new, and has attractive marketing features. It is made by conveyor, stream-line process when little labor is required, and has a quick turnover.

BO-326, Textile World
330 West 42nd St., New York 18, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's Fees, sent without obligation. Simply ask for "booklet and schedule."

Established 1915
Patents & Trade-marks
Suite 448, 815—15th St., N.W., Washington 5, D.C.

MILL WANTED

Mill to do Commission Weaving of Cotton Upholstery Fabric having large post-war market. Will start as soon as civilian yarn is available.

BO-316, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED
BRAIDING MILL

WILL PURCHASE OUTRIGHT. COMPLETE BRAIDING MILL. Prefer 17 and 29 Carriers (Textile Machine).

P.O. Box 1433, Springfield, Mass.

COTTON MILL

A Southeastern spinning mill with over 20,000 spindles now producing more than 2,000,000 pounds 24's to 50's yarn per year. A going concern.
Land - Buildings - Village - Modernized machinery - Goods in Process and Supplies will be sold for $950,000.00. Terms.

WHITE AND COMPANY
PALMER BUILDING ATLANTA, GEORGIA

(Additional Mill For Sale on page 252)

(Wanted Advertising—page 252)

AN EMBLEM TO BE PROUD OF

Worn by Men and Women who have been Honorably Discharged from our Armed Forces

THEY'RE COMING HOME BY THOUSANDS

PROUDLY WEARING THIS EMBLEM

You can help make jobs for them

SELL YOUR IDLE EQUIPMENT TO "CONSOLIDATED"

We'll redeploy it where most needed to keep up Production for War or Peace

EXTRACTORS

6—V.V. & Tolhurst 54" & 60"; rubber & copper baskets.
8—V.V. Fletcher & Tolhurst 40-48", copper lined.
10—Tolhurst, American Laundry, Bock & Troy 14"-42", copper baskets.
2—48" Raw Stock Extractors.
1—Hercules 30" Open Top Extractor.
1—Gessner 72" Vacuum Extractor.

SCOURING & DYEING

2—Haveg Washers, completely enclosed.
1—Sargent 3-Bowl Skein Scouring machine.
6—Klauder-Weldon Skein Dyeing Machines.
1—Obermaier Yarn Dyeing Machine.
2—Buhlman 100-arm skein dyeing machines.
1—Smith Drum Skein Dyeing Machine.
3—Double Tier Comb. Beam & Package Dyers.
3—S-D Monel Rotary Dyers, 3 & 4 pocket units.
1—Geyser Type Skein Dyeing machine.
9—Franklin Cast Iron Pkge. Dyers—6-600#.
2—Haveg Totally enclosed dye becks.
1—Sargent Wool Dyer.

DRYERS

3—National & P & S Loop Dryers, 30-65' long.
1—P & S 72" Raw Stock Dryer, automatic feed.
1—Phila. Raw Stock Dryer, 48" automatic feeder.
3—Sargent & Hunter Wool Carbonizers.
2—P & S Oven type Package Dryers.
4—Truck Dryers, 1 & 2 trucks.
1—Multipass Airlay Dryer.
6—Proctor & Schwartz Yarn Dryers.
1—Pin Tenter Dryer, 64" wide.
1—V.V. 5-Tier Net Dryer.
2—Heathcote and Kenyon Cloth Dryers.
1—Procter & Schwartz Hosiery Dryer.
1—Riggs & Lombard Cloth Dryer.
1—Sargent Wool Dryer. 1—P & S Apron Dryer.
1—National Loop Dryer, 96".

NAPPERS

2—D & F single acting Nappers, 60 & 84".
3—Gessner & Woonsocket double acting Nappers, 60", 84" & 90".

TENTER FRAMES

1—Textile Fin. Mach., 90'x50" Tenter.
1—W & J 80'x50" Swing Tenter.
1—Heathcote Pin Tenter.
1—25' Tenter with Bakelite clips.

PALMER QUETCHES & TENTERS

2—V.V. Palmers, 60" & 72".
3—Morrison & V.V. 50", 60" & 72" Palmer Quetches.
1—Butterworth 80" Palmer.
2—V.V. & General Machine 60" Palmerettes.

PADDERS, MANGLES, QUETCHES

5—Textile & Butterworth 2-Roll Pad, 50", 62", 90".
1—Butterworth 2-Roll 80" Padder.
4—Butterworth 50" 2-Roll Starch Mangles.
1—James Hunter 50" Water Mangle.
5—Butterworth & Morrison 2 & 3-Roll Quetches, 50-72".

BUTTON BREAKERS

3—Morrison & V.V. Button Breakers, 50-72", brass rolls.

REAMERS—BATCHERS

4—Van Vlaanderen 50" & 60" Beamers.
9—Batchers, 48"-72".

FLAT FOLDERS & DOUBLERS

4—E & Hall Flat Folders, 42"-60" with motors.
3—P & W & Windle 46"-60" Doubling, Reeling & Measuring.
1—96" Doubling & Folding Machine.

COATING MACHINES

Plastic and rubber coaters, 50"-72".

SEWING MACHINES

5—Morrow 60ABB & 60D3B on stands and tracks.
3—Union Special and Singers.

BRUSHING MACHINES

2—P & W Cloth Brushers, 72" & 100".

SLASHERS

3—Saco-Lowell Cotton Slashers.

DECATERS

1—P & W 72" Decater.

WASHERS

1—Continuous 60" Boil-Off Machine, steel tanks.
1—Van Vlaanderen 60" Open Washer.
2—Open Washers, 5 & 8 compartments, 50" face.
1—3-Compartment Monel Rotary Washer.
1—60" Open Washer.

CALENDERS

2—V.V. Ball Bearing Calenders, 50" & 60".
6—V.V. Butterworth & Textile, 3, 6 & 7-Roll Hydraulic Calenders, 80".
3—Butterworth & Perkins 40", 54" & 80" 3-Bowl Schreiners.
1—Butterworth 3-Roll 54" Friction Calender.
2—54" and 65" Embossers.
1—Textile Fin. 3-Roll Narrow Friction Calender.

SHEARS

3—P & W 2-Blade Shears, 60" & 66½", complete with lint saving device and brushes.

DYE BECKS

12—Morrison & V.V. 6' to 9' Dye Becks, stainless steel and wood tubs.

DYE JIGS

2—Morrison 60" Dye Jigs.
4—Morrison Dye Jigs, 40", S.S.
1—Butterworth Scouring Jig.

DRY CANS

355—Dry Cans, 50" to 112" face, 23" to 84" dia.

Complete Silk Throwing Plant
Complete Jacquard Weaving Plant
Small Complete Woolen Mill

PRINT MACHINES & EQUIPMENT

2—BTA & BTS Motors, 25, 35 & 50 horsepower. Star gears, mandrels, copper pans & doctor blades.
1—Franklin 3-Color 45" Print Machine. Complete with Jack, and 8 Copper Rolls.

PRINTING MACHINES

7—R. B. & F. 1-10 color Print Machines, 40"-60".
1—Waldron 4-Color Wallpaper Print Machine.
1—V.V. 10-color Ribbon Print Machine.

TUBERS

5—Tubing & Measuring Machines, 50"-60".
1—Hermas 60" Measuring Machine with Motor.
3—New 60" Beamers.

KETTLES

4—Textile Copper Steam Jacketed Color Kettles, tilting, agitated, 40-150 gallons.

WEAVING MACHINES

24—C & K 92" automatic looms.
13—C & K 82" automatic looms.
10—Draper 79" automatic looms.
52—C & K 52" automatic looms.
24—C & K 4x4 Automatic Tapestry Looms, 64".
30—72" Jacquard Looms, C & K.
60—Crompton & Knowles 92" Woolen Looms.

AGERS

2—Butterworth Cast Iron Agers, 18' & 30' lg., 50-60" wide.

KNITTING MACHINES

150—1" to 21" Circular Knitting Machines.
4—Wildman 23" Ribbers.
2—Grosser Knitting Machines.

PREPARATORY MACHINES

2—Sargent & C & M Burr Pickers.
2—30" Rag Pickers.
1—40" Kitson Pickers.
1—40" Mixing Picker.
1—C & M 40" Fearnaught Picker.
2—Saco Lowell Condensers.
2—Saco Lowell Vertical Openers.
4—Pangborn Dust Collectors.
1—Conical Duster with dust blower.
1—Sargent Cotton Picker.
1—High speed warping creel.
6—Automatic Rag Picker Feeds.

CARDING MACHINES

14—Sets D&F Wool Waste Cards, 48" x 48".
3—Sets D&F Woolen Cards, 48" x 48".
1—Woolen Card, 48" x 60" diameter.
3—Sets D&F Worsted Cards, 60" x 54".
2—Sets D&F Worsted Cards, 60" x 48".
2—Sets D&F Worsted Cards, 54" x 54".
2—Furbush Worsted Cards, 48" x 48".
6—Sargent, Bramwell & Harwood Feeds.
1—Barker Triple Rub 3-bank condenser.
16—Whitin D-2 Combers.
8—Hetherington Silver & Ribbon Lap Machines.
2—5-cylinder 48"x48" Shoddy Cards, equipped with Bramwell Feeds & metallic breasts.
3—Bramwell 60" Card Feeds.

SPINNING & YARN MACHINES

52—Whitin & D&F Spinners, 240-252 spindles 2"-3½" gauge, hand driven.
1—D&F Wool Spinner, 4½" gauge.
36—Deliveries H&B Drawing Frames, 12" coilers.
1—J&B 336-spindle Mule.
6—Platt Worsted Mules.
1—Sipp Double Deck Winder.
1—P-S Ring Twister, 5" band drive.
3—Fletcher Double Deck Winder.
2—Foster #101 Cone Winders.
12—Universal #50 & #90 Winders.
8—Atwood 50-B Spinners.
2—Sipp 72" Warpers.
3—Whitin & Atwood Skein Reelers.
4—Jack Spoolers, complete with creels.
7—H&B Speeders, 5" gauge.
2—Foster #12 Winders.
4—Worsted Spinning Frames.

WATER SOFTENERS

1—Permutit Water Softener, 103" lg. 63" wd.
2—10 x 10 Vertical Softeners, Zeolite.
3—Pressure Sand Filters, 8' dia. x 20' long, complete.

FULLING MILLS

2—James Hunter #10 Fulling Mills.

GARNETTS

3—James Smith 3-cylinder Garnetts.
1—P & S Single Cylinder 20x60" Garnett.
1—P & S 2-cylinder 20"x60" Garnett.

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CALENDER, 4 bowl, 2 paper 2 steel
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2—DRYERS, CONVEYOR, 50" face, 4 fan
DRYERS, Net Conveyor, 56" & 60" wide
DRYER, Loop, P & S 30'
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DYE BECKS, stainless steel 4' to 20'
DYE TUBS, Copper, Skein, various lengths
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EXTRACTOR, 48" Tolhurst copper basket
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FULLING MILLS, Hunter, #10
INFRA RED units, complete with blowers
INSPECTION TABLES, with DC motors 47"
JIGGS, Cast iron 50" & 60"
JIGGS, Monel lined, 60"
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MOTORS, BTA, 7½, 12½, 25, 30 HP
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PALMERETTE, 60" face, General Machine
PRINT MACHINE, 3 color 60"
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PRINT MACHINE, 10" sample
QUETCH, 3 roll, Morrison 60"
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RIBBON FIN. UNIT, Complete
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SQUEEZE ROLLS, 1 pr. 80" on stand
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1—Model "K" Barber Colman Portable Tying-in Machine.
1—Model 4-E Barber Colman stationary Tying-in Machine.
6—7x3½ Woonsocket Speeders, 160 spindles each.
4—8x4 Woonsocket Speeders, 160 spindles each.
1—Foster 100 spindle motor driven #30 Winder, equipped for tubes and cones.
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1 Bushnell Cloth Baler 60x42x29
1 E&H 46" flat Folder for Rayon with Scroll
2 Stur. Blowers #30 and #29
1 Stur. Multivane Blower, size 5, design 3
1 Sargent Yarn Conditioner

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10—#50 Universal Tube Winders, 6" trav.
8—80 spdle. Yarn Doublers 4 or 5-ply
1—Skein Dyeing Unit
8—C&K 82" Looms 4x4 box, 25 harness
8—C&K 92" Automatic Looms 4x1 box
1—Sargent 3 Bowl Yarn Scouring Machine
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Five Cylinder Shoddy Cards
2—5-cylinder 48 x 48 shoddy cards equipped with feed boxes, metallic breasts, shoddy winders. Wooden cylinders and workers. Wire in first class condition. Price on application.
One Lombardy 60 x 48 two-cylinder iron card without feeder breast.
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30" LOOMS
75—Draper 30" Model E used looms in good condition. Complete with Lacey top motions, pulleys, shafting, beams, etc. Located in South.
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Excellent Textile Equipment

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100—Draper Model K 45" Looms, Belt Driven, 8" Bobbin.

600—Draper Automatic Looms with Slashing Auxiliary equipment.

200—C & K 2 x 1 Looms.

200—600 hook C & K Double lift jacquard heads.

32—C & K #1304 Fine Index Double lift single cylinder heads.

WINDERS

15—Universal Winders with Bunch Builders.

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1—Howard & Bullough Two-Drum Cotton Slasher, with 7' x 5' diameter Copper Cans.

EXTRACTORS

2—60" Steam Driven Centrifugal Extractors, Perforated Copper Baskets, Quick Opening Cover, 600 R.P.M.

1—Kranz, 42" Centrifugal Extractor, enclosed motor, perforated copper basket, quick opening safety Cover AC Motor drive.

1—Adams 28" Extractor, 5 H. P. Motor, 400 RPM, 220 volts.

CAN DRYERS

1—6 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—Textile Can Drying and Rolling-up machine, Copper Can 36" diameter, 50" Face.

1—Textile Finishing Machinery Company set of 8 Copper Cans—2 stacks, 4 Cans to a Stack, Vertical Stacks, 50" wide.

1—Textile Finishing Machinery Co. Copper can dryer consisting of 8 cans, 23" dia. 54" face with take-up, let-off. Reeves Variable speed transmission.

1—Textile Rolling-up and steam machine equipped with copper can 40" dia. 48" face.

1—Textile Finishing Machinery Co. 8 Can Dryer, consisting of Copper Tinned Cans, 23" diameter, 54" Face with Take-up, Let-off, Reeves Drive, A.C. Motor.

1—Van Vlaanderen 5-tier, 4 section Conveyor Dryer, with Rods, 60" face, Motor Driven Fans, Airfin Heating Units.

COTTON SPINNING UNIT

5,000 Spindles, with Picking, Carding, Slubbers, Intermediates, Motor Driven Spinning Frames, Motor Driven Twisters, Speeders, Winders.

SPECIAL

DYEING EQUIPMENT

1—Rice, Barton & Fales Dye Jigg, 50" Roll, Wooden Tub, Metal-lined, complete with 2 Motors, 230 Volt, D.C.

4—Textile Dye Jiggs, 54" Wooden Tub, 2 Rubber-covered Ball Bearing Top Rolls, 4 Stainless Steel Immersion Rolls, Bevel Gear Drive with 1 DeLaval Worm Reduction Gear Unit, direct connected to Lincoln 10 H.P. A.C. Motor, 550 volts, 60 cycle, 3 phase, 1200 RPM, with Control.

TENTER FRAMES

1—Textile 40' Pin Tenter Frame, Link Belt Drive, #3 Reeves General Electric 5 HP, 60 Cycle, 3 Phase Motor, 60" wide, General Electric Guiders, Steam Heating Coils.

1—Winsor & Jerauld 40' Tenter Frame stainless steel clips. Reeves drive. A-C Motor.

1—Van Vlaanderen 50' goods, equipped with Marshall Williams Stainless steel clips. Reeves Variable speed transmission. All accessories.

1—50' Van Vlaanderen Tenter Frame, 50" wide, Enclosed Gears, Reeves Variable Speed Transmission.

COTTAGE STEAMER

1—Robert Metcalf Cottage Steamer, 10' long x 8' wide.

SPECIAL

1—Cocker High Speed Warper, 1938 Model, Motor Driven, 440 volt Motors for Beams 54¼" between Heads, Electric Eyeboard Stop Motion, Magazine Cone Creels for 768 ends.

DYE BECKS

1—Stainless steel lined 18" dye beck Tank 18" x 30" x 96" Single Slot reel, Brass Idler rolls. Geared link chain drive.

1—20' Stainless Steel-lined Dye Beck.

QUETSCHES

1—Van Vlaanderen 3 roll quetsch 60" face, Motor driven, chain drive by 1 h.p. General Electric AC Motor.

1—Van Vlaanderen 65", 2-roll Quetsch, Brass Rolls, Reeves Drive, Ball Bearing.

KNITTING MACHINES

120—Scott & Williams Circular Latch Needle Knitting machines. 10" to 22", 10, 11, 12 and 13 cut. Large stock of new needles.

DOUBLERS AND TUBERS

1—Parks & Wilson 54" Doubling and Reeling.

SCUTCHERS

1—Textile 58" Roller bearing Scutcher.

SEWING MACHINES

Singer, Union Special, Merrow, Metropolitan and Willcox & Gibbs Flatlocks.

COUNTERS

34—Veeder-Root, Cloth Counters.

FOLDERS

1—Eastwood Gray Goods Folder, 60" wide.
3—E & H Flat Folders, 45" to 60" wide.

FINISHING CALENDERS

1—Butterworth 42" Hydraulic Schreiner 2 Bowl Calender, equipped with Cotton and Steel Engraved Rolls, Gas Heated Friction Unrolling and Batcher, Tension Rolls, complete with Accumulator and Pump, direct connected to General Electric 3 H.P. A.C. Motor, 50 Volts, 60 Cycle, 3 Phase, 900 RPM. Type M.T., with Drum Controller, Magnetic Switch and Grids.

KETTLES

7—Copper Steam Jacketed Mixing Kettles, equipped with Double Motion Bronze Agitators, 70 to 350 Gallon capacity.

METERS

G. E. Steam flow meter.

DECATORS

1—Parks & Woolson 72" Semi-Decator, with Blanket, Nash Vacuum Pump and Motor.

PRINTING MACHINES

1—Werner Single Color printing machine 47" face.
2—R. B. & F. 42" Multicolor printing machine.

PRINT MACHINE MOTORS

5—Print Machine Motors, 23 to 35 H.P.

PUMP

1—#1 Nash Engineering Pump, Type 960

BUTTON BREAKERS

2—50" Van Vlaanderen Button Breakers.

CHAIN

1—Hoey Tenter Chain, 1100 Textile Brass Tenter Clips.

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Six complete power plants, just purchased from the Georgia Power Company, which include:
22—High Pressure Water Tube Boilers, 200 to 600 H.P.
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304 Spindle—3½" Gauge—10½" Traverse. Model J

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Butterworth — Straight-away No. 00 Top-Opening Clamps 60 ft. long x 90" Wide Max. To handle up to 80" Cloth

Item 11001

1 COMPLETE BACK WASHING Unit

Item 11001-A

BACK WASHER

1—set of 2 bowls, 33" wide x 7' 4" long inside measurement x 14" deep
2—sets Nip Rolls — 11" dia. x 28" face in #1 & #2 bowl
1—Nip Roll #2 bowl—13" dia. x 28" face, Upper roll Rubber covered, Lower roll Brass
3—brass Nip rolls 5" dia. x 28" face in each bowl

Item 11001-B

BACK WASHER DRYER

Taylor Wadsworth & Co., Lt'd., 9 cylinder—41" C side x 11' 10" long x 7' 6" high containing 9, 23½" dia. x 31" dryer drums
5—pair glass panelled doors & 1 hatch door in top slope

Item 11001-C

DOUBLE HEAD BALLING GILL BOX

C. & A. 6' 8" wide x 5' 6" long
Above trains of three — all belt & chain driven by 25 H.P. G.E. Motor, 900 R.P.M.

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APPROX.—100 Beam Flanges

28 x 28 inches diam. x 3/16 or 5/16
APPROX.—50—All Iron Beams 60" between heads with 26" Flanges

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4 Cylinder P. & W. Tiger

Serial 6445—66 inches wide

Item 9764

1 Single Cylinder Shear

C. & A. 66 inch Belt Driven

Item 789

1 Voelker Steam Press

66 inches

Item 9793

1 Curtis & Marble Shear

66 in. (Belt Driven) Single Cylinder

Item 6767

1 Curtis & Marble Teasel Gig

66 inches wide 40" Diam., Single Cylinder—Belt Driven

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41—48" Copper Dry Cans
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2—46" & 60" P&W Doubler & Roller
4—E&H Hookers 50" & 41"
1—B&B Baling Press
1—90' Tenter 50" wide
5—40" Padders
1—50" Gessner Single Apron Press
1—54" Embossing Cal. Hydr. w/Pump & Acc.
1—40" Iron Sludge Extractor
1—36" 3 Roll Hydr. Calender
1—Warp Chain Drier with Housing
1—Warp Splitter Complete with Boxes
3—36" Hydro Extractors—Iron Baskets
1—72" P.&W. 4 Brush Machine
2—A&G Loop Driers for Tops
3—44" Shreiner Calenders
1—Pair of Jack. Copper Kettles 175 Gals. Cap. with Stand and Agitators
1—50" Swing Tenter 60' long
1—7 Bowl Jumbo Calender 50" wide
1—72" 2 Roll Pad

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2—5 Cyl Furbush 48x48 Shoddy Cards with feeds & breasts
4—60" Bramwell Card Feeds
2—28" Franke Opening Pickers
1—Foster Model 21A Tube Winder, 7" Tray.
30—#50 Universal Winders, rebuilt
9—#90 Universal Winders, rebuilt
3—#80 Universal Winders
4—#180 Universal Winders, 8x8 Super Coners
1—30 Spindle Lazenby Butt or Bobbin Winder
1—Lazenby Cop Winder.
2—O. Lever Chenille Cutters
10—82" C&K 82" 4x4 box 25 Har. Looms
1—Kettling & Braun Full Decating Mach.
2—P&W and Windle Doubling & Rolling Mach.
1—P&W 66" Doubling, Rolling & Measuring machine.
1—Elliot & Hall 66" wide Yard Folder
2—Smith Drum Skein Mercerizers
2—Woonsocket 82" 20 roll D.A. Nappers
1—80" Woonsocket 24 roll D.A. Napper
1—80" wide Butterworth Tenter
3—Gessner Double Bed Presses, various widths
1—Voelker 82" Double Bed Press
5—P&W and C&M 2 Cylinder Shears
1—Fletcher 48" Copper basket Extractor, arranged for motor drive, no motor
1—J. Smith 2 3/16" Ga. Mule

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Longclose Enamelled Dye Pots for Longclose Engineering Co. Top Dye Kettle.
1 pot — 1'6" deep x 1' diameter inside.
2 pots—1'2½" deep x 1'3" diameter, inside.

THE BARRE WOOL COMBING COMPANY, LTD.
South Barre, Massachusetts

1—FOUR BOWL, 26-INCH LORIMER SCOURING MACHINE

Two bowls cast iron equipped with malleable steel apron. Two bowls stainless steel lined, equipped with stainless steel apron. *Ready for delivery September 1st. Good condition. Reasonably priced.*

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BUTTERWORTH CALENDER

7 ROLLS—80" FACE

3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South.

AMES BAG CO.
10 EAST 40TH ST. NEW YORK CITY

25—C & K Space Looms, 1—4 Space, 20—6 Space, 1—8 Space, 1—12 Space, 2—14 Space
12—Fletcher Space Looms, 1—4 Space, 9—8 Space, 1—12 Space, 1—14 Space
8—Jute Fly Shot Looms
All Medium and Heavy Web Looms. Creels, Warping and Winding Equipment.

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Very Perfect Condition
HEAVY GAUGE BRASS
SPRINGS RE-WOUND, BOUGHT, SOLD

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Three (3) Butterworth Copper Drying Cans

each 36" diam. by 50" face suitable for 15# working pressure.

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1—CALENDER 42" Friction 3 roll.
1—CALENDER 50" Pressure 3 roll.
1—SEMI-DECATUR 68".
1—DOUBLER 60".
1—DRYER Net type 5 tier unit, fans with Infra-Ray Burners.
2—DRYERS RAW STOCK approx. 350-lb capacity.
2—DRY HEADS TUBULAR KNIT GOODS 11 Aluminum Baskets.
1—DRYER Hunter 2 section Drum type for Knitgoods with Carbonizing Dryer.
1—DYEING Unit SKEINS 28 arms.
6—EXTRACTORS 36" to 60".
3—FULLING MILLS Double Compartments.
1—MANGLE 42" 3 roll.
1—MANGLE Heavy Duty 66" 2 roll.
3—NAPPERS 80" Cotton 20 roll Units.
4—NAPPERS 66" to 90" Woolen D.A. 24 roll units.
2—NAPPERS 80" D.A. 36 roll units.
2—NAPPERS C&M 66½" Single Roll units.
1—PADDER 66" 2 roll top brass, bottom rubber.
3—PRESSES, Rotary 66" to 80" Double Beds.
2—QUETSCHES 60" & 80" width 2 roll units.
4—SHEARS 40" to 80" width Single & Double Blade Units.
1—SET SQUEEZE ROLLS 80" x 7" diameters.
1—STEAMING Machine 68" x 21" Dia. with blanket.
2—MEASURING MACHINES AWC 66" & 80" widths.
1—TUBER 62" motor and clock.
1—TENTER FRAME 60' x 80" width.
1—TENTER FRAME 30' x 58" width.
1—TENTER FRAME 10' x 40" width.
1—SCOURING Unit 5 Bowl 48" Raw Stock.
4—WASHERS Wool 6' boxes.
1—VACUUM EXTRACTOR 72" pump and motor.
1—BACKWASHER 2 bowl, revolving creel.

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CARDING, SPINNING & WEAVING:

5—Sets D&F 3 cylinder Woolen Cards 48x48 complete, 60 good ends.
2—Sets Furbush 2 cylinder Shoddy Cards 48x60, with combs.
4—Sets James Smith 2 cylinder Shoddy Cards 60x48, with combs.
2—Sets Furbush 5 cylinder Shoddy Cards 48x48, with combs.
4—COMBS Worsted with circles.
2—CONDENSERS TAPE 60" Cards 108 ends each.
4—Bramwell FEEDS for 40" & 60" Cards.
3—Apperly FEEDS for 48" & 60" Cards.
1—GARNETT 3 cylinder 30x60 complete with automatic feed.
1—GARNETT 2 cylinder 20x60 complete with automatic feed.
4—GILL BOXES Single Head Double Delivery.
2—Intermediates 9x4½ 84 spindles each.
75—LOOMS Draper E 30".
12—LOOMS Draper E 52".
45—LOOMS Draper D 42".
50—LOOMS Draper E 40".
40—LOOMS C&K 4x1 automatic 41½".
150—LOOMS C&K 4x1 automatic 50".
30—LOOMS C&K 4x1 automatic 52".
24—LOOMS Stafford 2x1 box 72".
24—LOOMS C&K 4x1 automatic 79½".
70—LOOMS Draper 90".
22—LOOMS C&K 82" 4x4 25 harness.
20—LOOMS C&K 92" 4x4 25 harness.
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Six spindle unit, 11" gauge.

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(Continued from page 246)

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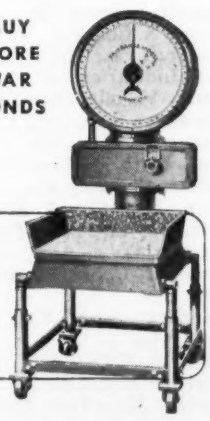

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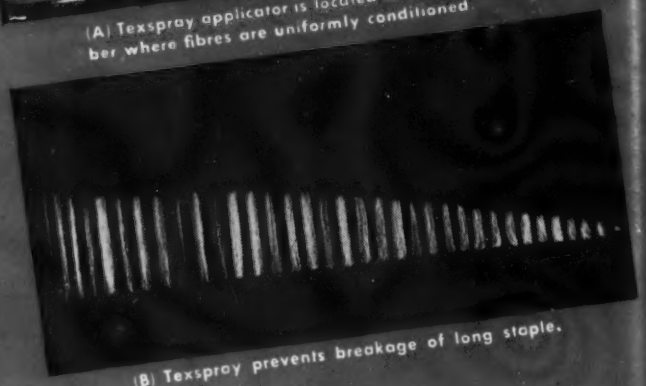
SINCE 1876

Where unusual knowledge of Leather is combined with long years of Textile experience
APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

IMPROVE YARN QUALITY MILL EFFICIENCY with TEXSPRAY Fibre Conditioning Service

(A) Texspray applicator is located in beater chamber where fibres are uniformly conditioned.



(B) Texspray prevents breakage of long staple.

EFFECTIVE fibre conditioning depends upon (1) quality of the conditioning agent and (2) method and point of application. Because Texspray Fibre Conditioning Service fully meets these two requirements, it is preferred by leading mills.

Texaco Texspray Compound is a product specially refined for fibre conditioning and used exclusively for that purpose. It has been in use for more than ten years. Its success in leading mills demonstrates its ability to improve both yarn quality and mill efficiency. *Texaco Texspray Compound* softens brittle fibres, prevents breakage of long staple, reduces ends down and assures a more uniform, easier-to-draft stock. Moreover, it helps maintain a uniform yarn count and scours out easily.

The Texaco method and point of application are unique. The Texas Company has developed and patented a special "contact" applicator, which operates under constant hydrostatic pressure and has visible feed control. This applicator is located in the beater chamber so that the conditioner is applied only to clean stock. There is no waste. Because of its exclusive "wiping" action, the *Texaco Texspray Compound* is applied uniformly throughout the lap. Each fibre receives its equal share by direct contact.

Mill efficiency is materially increased where Texaco Texspray Conditioning is used. *Reduction of visible fly assures healthier working conditions* with consequent increased output. *Fire hazard is virtually eliminated* because there is no atomization by compressed air, no lint-collecting oil film on machinery and picker room walls. Through improved working conditions and finer quality of finished product, *Texaco Texspray Compound* has proved a genuine economy.

Texspray Fibre Conditioning Service is available only in the principal textile areas of the U.S. For full information get in touch with the nearest of the more than 2300 Texaco distributing plants in the 48 States or write to The Texas Company, 135 East 42nd Street, New York 17, N. Y.

This 20-page booklet tells the whole story. Write today for your copy of "FIBRE CONDITIONING WITH TEXSPRAY COMPOUND."

TEXACO
REG. T.M.

TEXACO Lubricants
FOR THE TEXTILE INDUSTRY

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON EVERY SUNDAY NIGHT—CBS